AMERICAN AGRICULTURIST

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

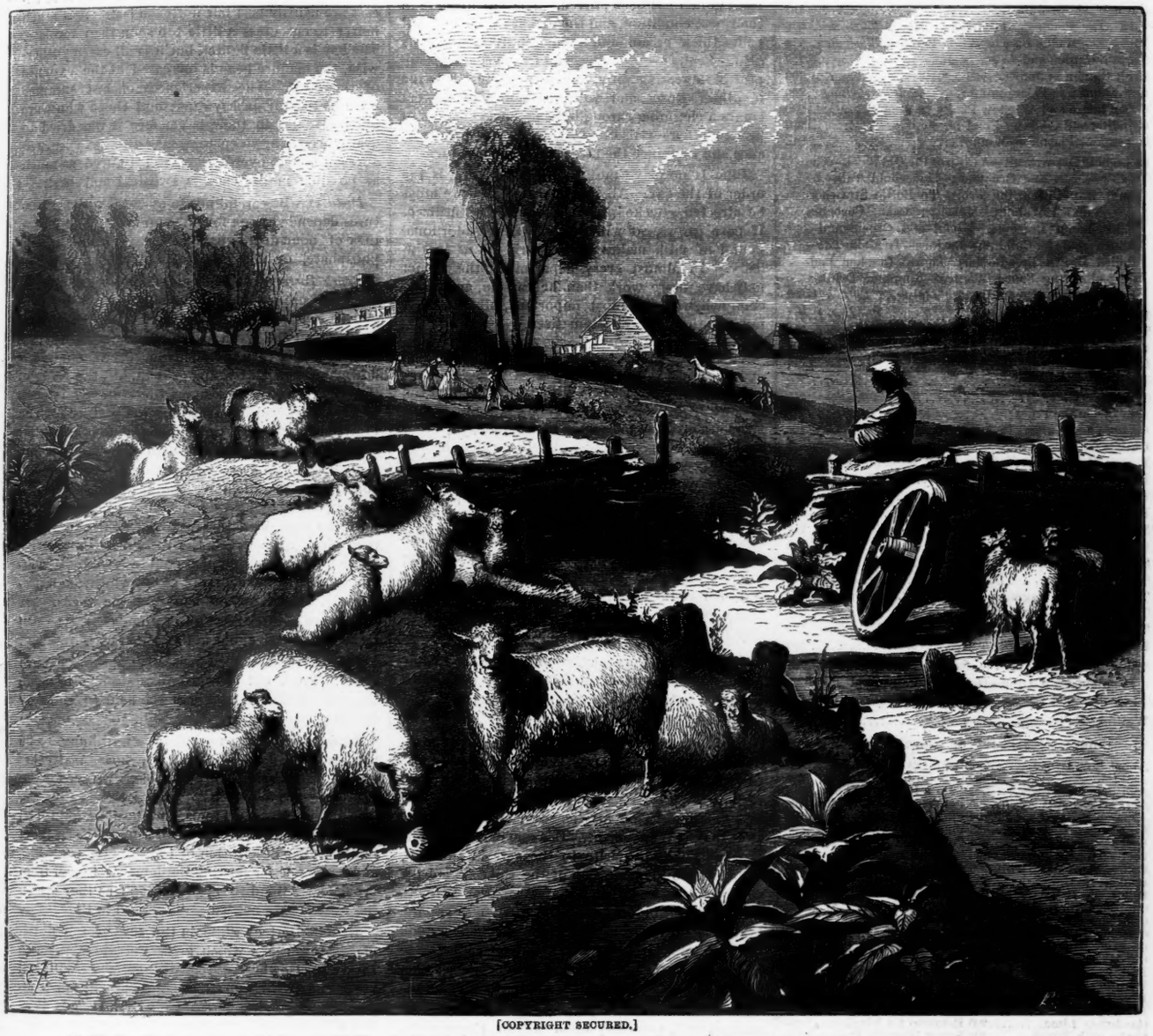
ORANGE JUDD & CO., PUBLISHERS AND PROPRIETORS. Office, 245 BROADWAY.

ESTABLISHED IN 1842.
Published also in German at $1.50 a Year.

$1.50 PER ANNUM, IN ADVANCE. SINGLE NUMBER, 15 CENTS.
4 Copies for $5; 10 for $12; 20 or more, $1 each.

Entered according to Act of Congress in May, 1869, by ORANGE JUDD & Co., in the Clerk's Office of the District Court of the United States for the Southern District of New-York.

VOLUME XXVIII.—No. 6. NEW YORK, JUNE, 1869. NEW SERIES—No. 269.



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THE PAST AND THE PRESENT.—DRAWN BY EDWIN FORBES.—*Engraved for the American Agriculturist.*

The little fellow sits upon the decaying earth-work, quite bewildered; he looks in vain for the martial display which only a few years ago so delighted him, and instead of seeing the sun reflected from the bayonets of the marching soldiery it now gleams only from the well-used implements of peaceful husbandry. The sheep no longer fly affrighted to the shelter of the woods, but rest among the relics of former strife. All over the world agriculture removes the scars of war. Kind mother earth forgives the disfigurement caused by the march of armies, the building of breastworks, and the plowing of cannon balls. The traces of war are obliterated by the furrow turned by the plow, and the olive is not more the sign of peace than is the harvest of corn or of cotton. Let, then, the earth-works be levelled and an improved agriculture make glad the waste places. It is very gratifying to see how rapidly the more southern States are awaking to a new system of things, and the increase in the number of agricultural papers, as well as their generally excellent character, is a strong indication of progress. Smaller farms and a mixed husbandry bring a dense population, without which schools, churches, social intercourse, and all the accessories of general intelligence, are not possible. Some of these States are making great efforts to induce immigration, and a few years hence the census will doubtless show not only a large increase in population but a great increase in the value of their agricultural products. The States north of these will be benefited by the receipt of fruits and garden products, which will soon be forwarded in great abundance.

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AMERICAN AGRICULTURIST.

NEW-YORK, JUNE, 1869.

What a glorious month June is! We have much more of sunshine than in any other month, and this is usually accompanied by heat and moisture in such degrees, that the whole country has an atmosphere like a green-house, and vegetation of all kinds makes its most rapid growths. The chilly days and cold nights of May have past; the backward corn now makes amends for its tardy development, loses the sickly yellow hue, and puts on the bright green of health. Wheat pushes up its bearded ears, and the clover heads make the meadows rosy. Long dormant seeds are warmed to life, and plants spring up unbidden wherever the fresh mould has been stirred. The pastures are in their best condition, and the distended udders, full pails, thick cream, and golden butter, make us glad. Fruits are ripening, and fresh vegetables appear in increasing variety upon the table. It is the month of Roses, and with the queen of flowers comes a charming throng bearing, some chalices of beauty, others vials of odors, to crown with radiance and fragrance the measure of the month.

June is no play-time. Work, hard work, is the order of the day. All this energy of Nature must be directed, checked, taken advantage of, utilized. If corn grows, so will weeds. Every additional pound of milk makes more work for us in the dairy. In almost every department the farmer may have more work than he can do, and to accomplish well the most important, all the labor must be thoroughly systematized.

Hints About Work.

Corn.—Early varieties will mature if planted the first week in June in all ordinary seasons, and as there are often drawbacks and hinderances, every farmer should have some early corn which he can plant if necessary. Large crops of even very small kinds may be secured if well manured and planted close enough. With the small kinds of corn we are apt to err in planting too far apart, just as with the large sorts we fail in the opposite way. The secret of easy, successful corn culture is allowing no weeds to grow—at least much beyond the seed leaf—before the corn is so large that horse cultivation is prevented. Weeds are killed both by stirring the soil in dry weather and by burying them.

Corn-fodder.—Corn may be sown up to the middle of July, or even later; and that which is not needed for green fodder should be cut and cured for winter use before it begins to turn yellow.

Roots.—It is not too late for fair crops of mangels, carrots, or parsnips. They should be sown as early in the month as possible. Sowing Swedish turnips (ruta-bagas), is usually set down for the 20th of June. They may be sown either before or after that, as convenient. Use one or two barrels of good superphosphate to the acre in the drill, according to the condition of the soil. The drills should not be less than two feet apart. Farmers ought to put in more roots, and ruta-bagas are the best to begin with. They are easily sold at a good price in our large markets, and are invaluable for cows, hogs, and sheep, in winter and spring.

Cabbages.—Sow seed for main crop. They are equal or superior to roots as feed for animals, and succeed well, especially upon stiff or clayey soils.

Green manure crops.—Clover is the best. Plow it under in full blossom. Buckwheat may be sown at any time, and if quickened by 100 or 200 lbs. of guano to the acre, may be plowed in in time to sow and turn under a second crop before frost, even on very poor land. Corn is one of the best crops for green manuring, though awkward to plow under. Sow in drills a foot apart, or broadcast, and when it tassels out, roll or drag it flat with the rows if drilled, and turn it in as it is laid with a large plow.

Fodder crops.—Besides corn for fodder, sorghum, millet, and Hungarian grass, offer useful substitutes for hay, or for feeding dry. They should, however, be cut early, before the outside of the sorghum or the tough seed envelops of the Hungarian millet are hard, as it is from these indigestible substances that harm arises, if it comes at all.

Grass.—It is often a question which meadow to mow first. Usually, we prefer to cut that first which is newest seeded, because the grass and clover will start up at once, and no harm will result to the roots should a drought come on next month. Where there are a great many daisies, they must be cut when just coming into blossom. This not only destroys many seeds, but the daisies make very good hay; whereas, if cutting be delayed, in a very short time they are quite worthless, and every seed is ripened. Orchard grass and June grass precede Timothy, and accompany clover in time of fitness to cut. Red-top and grasses of its kindred are later, and fields where red-top is in excess are usually best left until the last. It is much better to cut grass a little too soon than too late. The hay is a little lighter, but it is all eaten; otherwise, the manure heap is increased at the expense of the mow. The experiences of last summer warn us to provide hay caps; and those who were obliged to get in their hay before it was dried to death, according to custom, may also have learned a lesson not to overdry hay. That cured as much as possible in the cock is sweetest and best.

Pastures.—Be careful not to overstock those pastures depended upon for the summer. Top-dressings of bone-dust, guano, ashes, gypsum, superphosphate, or fish manure, will tell at once.

Brush Pastures, or those on which bushes of various kinds are gradually encroaching, may be nearly cleared in one or two seasons by feeding down with sheep. Cut the brush with a bush-hook, or scythe, and soon after turn the sheep in. They will gnaw down the succulent young growth, kill the roots of the bushes, and thrive upon the diet. It is best, however, to decidedly overstock the pasture for the most thorough work, the animals being kept on but a few days at a time through the hot season.

Potatoes.—Top-dress with gypsum, or gypsum and ashes. Use the horse hoe as often as the soil is compacted by heavy rains, very dry, or weedy, until the vines would be injured by the operation; then clean up between the rows with a Share's horse-hoe, or other similar double-mould-board affair, and leave them, except as you go through, frequently, if necessary, to hand-pull the weeds.

Peas sowed after the 10th of June, (Lat. 41°,) will be less productive, but not attacked by the weevil.

Tobacco.—Water seed-beds with dilute manure water. Prick out crowded plants, so as to make them grow stocky. Prepare the field to be ready for transplanting by the 20th, or before.

Implements.—Have a grindstone well hung, to be run by the foot. Keep axes, hoes, mattocks, spades, and all earth cutting tools, whether for the garden or the field, sharp all the time. Buy the best and lightest steel tools, and the most improved and superior implements of all kinds. Keep them housed. See description of tool-sled on page 212, and make one for moving implements to and from the field. Attend to repairs as soon as they are in the least degree needed. "A stitch in time," etc.

Weeds.—Destroy while in the seed leaf, if possible. Mow those which grow rank in the fence rows and elsewhere. Repeated mowings will kill most, and cutting off at the ground will finish almost every one in one season. Even Canada thistles will succumb after four or five cuttings at the surface of the ground, and on some soils with less.

Poultry.—Give young chickens free range of the garden, and feed well. They will take many insects. Even chickens for early marketing should not be confined. They must be well fed. Give them some meat, like pork scraps, cut fine, and soaked over night, and keep them growing fast. Confine old ducks, not needed as breeders, as soon as they stop laying, and give them fattening food. They will never be tenderer than if fatted and eaten at once, and that is saying little enough.

Swine.—Young pigs are useful in an orchard. Keep store pigs in pens, working over and tramp-

ing the manure from the stables, together with sods, bog hay, weeds, and last year's old cornstalks.

Sheep.—See that they are not scalded by the hot sun on their bare backs after shearing. Give new shorn sheep good shelter, both from cold and sunshine, until they have become used to their naked condition. Two weeks after shearing, ticks will usually be found upon the lambs. These, at least, should be dipped twice or three times, a week apart. Once dipping the old sheep will commonly answer. The best dip is unquestionably carbolic soap.

Cows.—Feed enough must be prepared to keep up the flow and the quality of the milk through wet weather or through droughts. Pea vines or clover, cut and fed at evening in the yards, may fill out the time between the cutting of wheat and rye for soiling, and the time when corn is ready to cut, which will not be before the 1st to the 15th of July.

Working cattle must have good, long noonings, if they are worked hard, and be well fed. Look out for yoke galls, and apply wet cloths at night and on Sundays. Foot-sore cattle must have rest in clean stables, where cut grass can be fed to them.

Horses at pasture thrive at this season; later, flies torment their flesh off. Mares with their foals should be pastured by themselves.

Work in the Horticultural Departments.

While the month of June brings abundant work, it gives us also rewards for our labors. Strawberries, early vegetables, and the choicest products of the flower garden, come with the warm days of June. The soil is now well warmed, and not only do established plants grow rapidly, but seed germinates with surprising quickness. Those who have been obliged to delay sowing, or who lost their early crops in the cold storms of May, can still sow seeds of most crops with good prospect of success.

Orchard and Nursery.

Young trees set this spring will need looking after. Much can be done towards giving them the desired shape, by rubbing off shoots which start where limbs are not wanted. Stop the growth of useless limbs, and nearly all pruning may be avoided. Shapeless trees, with crowded heads, come from neglect in their youth.

Pinching is preventing the prolongation of a branch by nipping out its "growing point,"—the young and tender end—by means of the thumb and finger. Where a shoot appropriates the nourishment to the detriment of others, pinch it.

Grafts will need similar care to that required by young trees; indeed, a graft is only a young tree, planted in the wood of another tree instead of in the soil. Where two cions were inserted, and they are likely to become crowded, remove the weaker. Govern the growth by pinching.

Budded stocks need similar attention. The shoot from the bud is often very vigorous, and the newly formed wood is not sufficiently firm to withstand the winds without staking.

Pruning.—This month is generally preferred for the removal of large limbs. We have, in previous numbers, given the precautions to be observed.

Cultivate young orchards, and keep the soil mellow. If there are crops between the rows, keep them well worked.

Thinning cannot be too often advocated, as it is very generally neglected. There are but few trees which fruit at all that would not be benefited by the removal of one-half of the crop. The sooner it is done, the better.

Seed-beds, especially of evergreens and deciduous forest trees, will require shading. This may be done by a frame of lattice-work, by sticking branches over the bed, or by placing a horizontal frame-work over it, upon which are placed branches of evergreens or brush.

Insects are most numerous and destructive this month. Use vigilance, and let patent remedies alone. Go among the trees frequently, and remove nests of caterpillars. The eggs of some caterpillars are laid upon the leaves, and a whole colony may be found upon a small branch. It will be better to cut this off and destroy the insects, than to allow them to spread over the tree.

Borers.—The parent of the borer deposits its eggs upon the trunk, near the ground, and the young hatch and eat their way into the wood. Occasional rubbing with a corn cob is practised, but a more certain preventive is to wrap the base of the tree with stiff paper, the lower edge of which should be below the surface of the soil.

Curculio.—We must repeat the often told story. The curculio can only be successfully controlled by daily jarring the trees, catching the insects on a sheet, and destroying them.

Slugs will appear on the leaves of the cherry and pear. They are small, green, and slimy fellows, of a repulsive aspect. Lime, or dry dust, shaken from a bag of loose fabric, will destroy them.

Plant Lice.—See articles among "Basket" items.

Fruit Garden.

Strawberries, if they have not already been mulched, should have the surface between the rows covered with some material to protect the fruit from being soiled. Salt or bog hay, straw, or even cornstalks, may be used. Some useful directions for those who pick fruit for market will be found on page 168, last month.

Blackberries.—The new canes should not be allowed to grow higher than 4 or 5 feet. Pinch them, and an abundance of branches will be thrown out, which are to be stopped by pinching when they are about 18 inches long.

Raspberries.—Let only four new canes grow to a stool, and remove all others, unless needed for planting. Give the new growth a chance to develop, which may be done by a little care in training. For several methods of training, see page 219.

Currants.—Mulching around the bushes will be of great service if the weather is dry. The best remedy for the attacks of the currant worm is powdered white hellebore.

Grape Vines.—It cannot be too often repeated that, to get a strong and vigorous vine, a newly planted one should, the first season after planting, bear but one shoot. Rub off all the rest, and keep the one shoot tied to a stake. Do not let young vines overbear. Two bunches to a shoot are enough, and one is generally better than two. Use sulphur freely upon the first appearance of mildew.

Insects will be troublesome. Hand-pick for the large beetles and worms that are found upon grape vines. See notes on the Orchard for other hints.

Kitchen Garden.

Hoe and Rake will be in constant requisition. Several forms of hand weeders are preferable to the common hoe. Whatever the implement selected, let the work be thoroughly done, and before a stubborn growth of weeds makes it hard work. A sharp steel rake used frequently will save much hoeing, as it will kill the weeds just as they are germinating.

Seeds of many things will need to be sown to keep up a succession as well as to replace those which have failed. Even as late as the first of June the majority of garden vegetables may be sown at the North, and produce fair crops.

Asparagus.—Stop cutting when peas are ready, and let it grow. Hoe over the bed, if weedy, and if there is any manure to spare, apply it.

Beans.—Continue to plant the bush sorts. See article on Lima Beans on page 217.

Beets.—Keep well weeded, and thin as soon as large enough to handle. The market gardeners sell the young beets that are thinned out for enough to pay for the labor. They are much prized as "greens" by those who know how good they are.

Cabbages.—Transplant the early sorts from the seed-bed, and sow late varieties. Those that were properly forwarded will be ready for the market or table. As soon as the crop is off, prepare the land for some other.

Carrots may yet be sown. This crop, when young, needs especial care to keep free from weeds.

Celery.—The young plants in the seed-bed should not become crowded or weedy.

Corn.—Sow for a succession every two weeks. If late in the season, sow early varieties.

Capsicums, or Peppers.—Set in rows, two feet apart, with fifteen inches between the plants. Select a warm and rich spot, and give good cultivation.

Cucumbers.—Make well-manured hills, about four feet apart, and put in a plenty of seed. When the plants are strong enough to be beyond injury by bugs, thin out to three in each hill. We have given so many devices for keeping off the "striped bug," that it is unnecessary to repeat them.

Egg Plants, like peppers, need rich soil and a warm situation. They repay extra manure and care. The same "green worm" that attacks the tomato will prey upon the egg plant.

Endive.—Transplant, and sow for a late crop.

Lettuce for summer use does best in a somewhat shaded and moist place. The India is the best.

Melons need the same treatment as cucumbers.

Onions.—No crop needs more careful cultivation. See article in April last. Where onions are marketed, they often pay better if sold when half grown than if allowed to ripen.

Parsnips.—Continue to cultivate until the growth of leaves prevents working between the rows.

Peas.—Plant succession crops. Put brush or other support to those that need it.

Radishes.—Seed may be sown for a late supply.

Rhubarb.—Cut away the flower stalks as soon as they show themselves. Stop pulling, and let the plants rest as soon as fruit comes.

Ruta-bagas, or the French turnip, may be sown late in the month. Dust the plants with plaster and ashes as soon as up, to keep off insects.

Salsify may still be sown, but the roots will not be so large as if put in earlier. The treatment is in all respects the same as that of carrots.

Spinach.—The common sorts are not so well suited to hot weather as the New Zealand, but a fair crop may be had if the weather is not too dry.

Squashes.—See last month's notes for directions.

Sweet Potatoes.—At most places at the North the first week in June is early enough to set them. The preparation of the ridges was given last month.

Tomatoes.—Set out plants. Keep well hoed. In the garden, some support is required, which may be a slat supported upon crotched stakes, a low wire trellis, or the plants may have a hoop support like that shown on page 219. In field culture, the plants are allowed to fall over by their own weight.

Flower Garden and Lawn.

Lawns.—To obtain a velvety surface, the grass must be clipped frequently. See last month's notes for remarks on lawn mowing machines.

Annuals may be sown, and the tender ones will come on rapidly, now that the soil is warm. Transplant or thin out those already up.

Bedding Plants, of the more delicate kinds, flourish better if put out now than if planted earlier. This is especially the case with Heliotropes, etc.

Specimen Plants, from the green-houses, may be used to ornament the grounds. The pots should be set in the ground up to their rims. Oranges, Oleanders, and the like, may be turned out of the pots and planted in the borders, but they must be taken up and potted quite early in autumn.

Fuchsias are only satisfactory in the open ground where they have considerable shade.

Tuberoses.—Procure bulbs that have been started under glass, if possible, but if dry bulbs are set, give them a warm and rich place.

Bulbs.—Tulips, Hyacinths, and other spring blooming ones, may be left from year to year, if no regard is had to the quality of the bloom. To obtain the finest flowers, the bulbs should be taken up as soon as the leaves show signs of decay.

Spread in a shed, and when the leaves are dry, remove them, and store the bulbs in a cool, dry place until time to plant—September or October.

Roses.—Cut back the Remontants as soon as they have done flowering. Remove faded flowers from the Everblooming varieties. Keep the new shoots of the climbing varieties trained up to the trellis. See article on Roses on page 168, last month.

Sticks and Strings will be in constant requisition if proper neatness is preserved. Manage to have supports of all kinds as inconspicuous as possible.

Weeds should never appear in the flower garden. Use the bayonet or the lance-headed hoe and narrow rake to work among the plants, and where very close together, a hand-weeder will be found useful.

Green-house and Window Plants.

Every thing that is to come out at all will be placed outside this month, and the sooner repairs are made, the better. The plants left in the house should not suffer from neglect. Those outside will need care in watering. Some must have shade during the greater part of the day, and all should be so placed that they will not be injured by high winds. Provide for potting soil, which, for general purposes, is best when made of decayed sods and well-decomposed manure, or rotted refuse hops.

SPECIAL TO EDITORS

OF

OUR EXCHANGES.

We think [ct even editors, who are usually supposed to "possess no foot of land," can look through this number without deriving profit and pleasure. One of the features of the paper is alluded to *below*, which may serve as a hint to those who may find it agreeable to notice the number.——As hitherto, we are happy to reciprocate any favors. With an exchange list of over 1,700, we can only do this by inviting editors to send us marked copies of notices, and to feel free to make suitable demands upon us for extra copies of the *American Agriculturist* for their friends or others. O. J. & CO.

Useful, Practical Hints about the every-day out-door and in-door work, are always of great value. A single hint often saves a valuable animal, or changes one's method of performing a particular kind of work so as to greatly lessen its drudgery. A farmer was troubled with smut in wheat. A single line in his newspaper told him to "wet the seed with tar water and roll it in lime." Acting on this hint for part of his crop, gave him an increase of over five bushels per acre of fine wheat, worth a hundred dollars on twenty acres, and many hundreds of dollars in after years. The knowledge, extended to his neighbors, resulted in thousands of dollars of net profit. Similar illustrations are continually occurring in all departments of life. Indeed, progress and profit come from an accumulation of these hints. The above train of thought is suggested by looking through the *American Agriculturist* for June 1st, an advance copy of which has just come to hand. Its pages are crowded with useful hints and suggestions, told in plain language, by practical, observing men, and in a multitude of instances illustrated with engravings that speak directly to the eye and the mind, more effectually than words can do. We doubt if there be a family in the country, or in a village or city, for that matter, that would not find this journal tenfold more valuable than its cost, $1.50 a year. We notice that the publishers offer a beautiful "ANNUAL" free to every subscriber to the *Agriculturist* received during June, for the current year. ORANGE JUDD & Co., Publishers, 245 Broadway, New York.

AMERICAN AGRICULTURIST.

ORANGE JUDD & Co., Publishers, 245 Broadway, N. Y. City.

ANNUAL SUBSCRIPTION TERMS (always in advance): $1.50 each for less than four copies: Four to nine copies, $1.25 each: Ten to nineteen copies, $1.20 each: Twenty copies and upwards, $1 each. Papers are addressed to each name.

AN EARTHQUAKE

would hardly awaken some people out of the drowsy dream-life they have always lived, or stir them from the "easy-go-along" gait they have always traveled. But these are not the sort of people that are found among the thousands upon thousands of wide-awake folks, who have helped send the *American Agriculturist* all over the land, from Nova Scotia to Darien, from Lower California to Alaska, all through the great Mississippi Valley, and to many foreign lands. And a large number of these wide-awake people are enjoying the reward of their efforts, in the form of splendid and valuable Premiums which they have received from this Office. (See list in next column.) Well, the year is nearly half gone, and

ON JUNE 30TH

we shall close up our general premium offers for this year, except for localities too distant to forward names by that time. As all *our* present readers, of course, belong to the wide-awake class, and as not quite all of them have yet obtained premiums, we write this to privately (*very* privately) remind them that there is ample time during the next thirty days to finish up all partially completed premium lists, and draw on us for the premiums offered. And those who have no partial lists begun can start and fill up *new* ones. We have a good supply of the excellent things named in the table in next column. THEY ARE EASILY OBTAINED! Large numbers ☞ of Men, Women, and Children, have gathered ☜ names enough in a day or two, often by a few ☜ hours' effort, to secure an article for which they ☜ would gladly have worked weeks. *Try* it with ☜ a will and determination to succeed, and in ☜ nine cases out of ten you will be successful. ☜ Take a copy of the paper, exhibit it among ☜ neighbors and friends, in your own neighbor- ☜ hood and elsewhere, (*for premium clubs need ☜ not be all at one post-office,*) show what the paper ☜ is, what it is worth, how cheap it is, and in a ☜ brief time the desired number of subscribers ☜ can be gathered, and the premium secured. ☜ Just to help the matter along, and to accom- ☜ modate those who wish to try the paper for ☜ six months, at 75 cents, we will count two ☜ subscribers for half a year as equal to one ☜ subscriber for the whole year, in supplying ☜ the premiums—that is, we will now make

Two Halves equal **One Whole One.**

[In this table are given the regular cash prices of each article, and the number of subscribers required at $1.50 a year, to get it free, also at the lowest club rate of $1 a year. For full descriptions of the articles see extra sheets, sent free.]

Table of Premiums and Terms, For Volume 28—(1869). Open to all—No Competition.		Price of Premiums.	Number of Subscribers required at $1.50	at $1.
No.	*Names of Premium Articles.*			
12	*Alderney Bull, "Wachusett,"*	$300 00	280	840
15	*Alderney Bull, "Alleghany,"*	$200 00	220	660
17	*Cotswold Ram*	$200 00	220	660
19	*Cotswold Ram*	$100 00	110	330
21	*Cotswold Ewe*	$100 00	110	330
26	*Brahmas, Light, one Pair*	$15 00	22	75
29	*Early Rose Potato, (Three lb. parcel)*	$2 00	4	25
30	*Garden Seeds for a Family (40 kinds)*	$5 00	13	37
31	*Flower Seeds for a Family (100 kinds)*	$5 00	13	37
32	*Nursery Stock (any kinds desired)*	$20 00	30	97
33	*Set of Field Croquet*	$8 00	16	52
35	*Sewing Machine (Grover & Baker)*	$55 00	60	240
36	*Sewing Machine (Howe Machine Co.)*	$60 00	67	270
37	*Sewing Machine (Florence)*	$63 00	70	275
38	*Sewing Machine (Singer's Tailoring)*	$80 00	90	320
39	*Sewing Machine (Willcox & Gibbs)*	$55 00	60	240
40	*Sewing Machine (Finkle & Lyon)*	$60 00	67	270
41	*Washing Machine (Doty's)*	$14 00	21	70
42	*Clothes Wringer (Best—Universal)*	$10 00	18	58
43	*Tea Set (Hart's best Silver Plated)*	$50 00	66	225
44	*Castor and Fruit Basket (do. do.)*	$30 00	44	140
45	*Ice or Water Pitcher (do. do.)*	$18 00	27	90
46	*One Dozen Tea Spoons (do. do.)*	$6 00	15	45
47	*One Dozen Table Spoons (do. do.)*	$12 00	19	65
48	*One Dozen Dining Forks (do. do.)*	$12 00	19	65
49	*Tea Knives and Forks (Patterson Bros.)*	$20 00	30	97
50	*Table Knives and Forks (do. do.)*	$34 00	86	116
51	*Carving Knife and Fork (do. do.)*	$5 00	13	37
52	*Melodeon, 4-octave (G. A. Prince & Co.'s)*	$67 00	78	265
53	*Melodeon, 5-octave (do. do.)*	$112 00	138	400
54	*Piano, Splendid 7-oct. (Steinway & Sons)*	$650 00	540	1600
55	*Colibri Piano (Barlow, Doehler & Co.,)*	$450 00	380	1150
56	*Silver Watch (American Watch Co.)*	$40 00	50	150
57	*Ladies' Fine Gold Watch (Am. Watch Co)*	$100 00	110	350
58	*Double Bbl. Gun (Cooper, Harris & H.,)*	$30 00	46	150
59	*Repeating Shot Gun (Roper Rifle Co.),*	$60 00	67	270
60	*Tool Chest (Patterson Bros.)*	$44 50	60	190
61	*Case of Mathematical Instruments*	$9 00	18	55
62	*Case of Mathematical Instruments*	$15 00	22	75
63	*Gold Pen, Sil. Case, E. (Warren & Spadone)*	$4 50	11	35
64	*Gold Pen and Silver Case, F. (do. do.).*	$5 50	14	42
65	*Barometer (Woodruff's Mercurial)*	$10 00	19	65
66	*Barometer (Woodruff's Mercurial)*	$15 00	22	75
67	*Buckeye Mowing Machine, No. 2*	$125 00	156	450
68	*Allen's Patent Cylinder Plow, etc.*	$19 50	29	97
69	*Collins & Co.'s Cast Cast-Steel Plow*	$25 00	38	120
70	*Pump and Sprinkler (Page's)*	$5 00	13	37
71	*Family Scales (Fairbanks' & Co.)*	$14 00	21	70
72	*Building Blocks (Crandall)*	$2 00	6	20
73	*Pocket Lanterns, One Dozen*	$9 00	12	48
74	*American Cyclopedia (Appleton's)*	$80 00	96	325
75	*Worcester's Great Illustrated Dictionary*	$12 00	19	65
76	*Any Back Volume Agriculturist* (Unbound. Postpaid.)	$1 75		20
77	*Any Two Back Volumes do.*	$3 50		39
78	*Any Three do. do. do.*	$5 25	13	58
79	*Any Four do. do. do.*	$7 00	15	47
80	*Any Five do. do. do.*	$8 75	17	54
	(Each added Vol. at same rate)			
81	*Twelve Vols. XVI to XXVII*	$21 00	31	98
82	*Any Back Volume Agriculturist* (Bound. Postpaid.)	$2 50		24
83	*Any Two Back Volumes do.*	$5 00		36
84	*Any Three do. do.*	$7 50	16	48
85	*Any Four do. do.*	$10 00	18	60
86	*Any Five do. do. do.*	$12 50	21	71
	(Each added Vol. at same rate)			
87	*Twelve Vols. XVI to XXVII*	$30 00	42	128
88	*A $10 Library (Your Choice)* (All sent paid through by Mail or Express.)	$10 00	18	58
89	*A $15 Library do.*	$15 00	24	85
90	*A $20 Library do.*	$20 00	31	106
91	*A $25 Library do.*	$25 00	38	125
92	*A $30 Library do.*	$30 00	44	144
93	*A $35 Library do.*	$35 00	50	162
94	*A $40 Library do.*	$40 00	56	177
95	*A $45 Library do.*	$45 00	62	192
96	*A $50 Library do.*	$50 00	68	207
97	*A $60 Library do.*	$60 00	80	237
98	*A $75 Library do.*	$75 00	100	282
99	*A $100 Library do.*	100 00	125	360
100	*A Choice of Good Books (See Terms below.)*		...	...
106	*Breech-loading Pocket Rifle*	$ 16 00	24	60

☞ *Every Premium article is new and of the very* **best** *manufacture. No charge is made for packing or boxing any article in our Premium List. The thirty-two Premiums,* **Nos. 29, 30, 31, 61, 62, 63, 64,** *and* **76** *to* **100** *inclusive, will each be delivered* FREE *of all charges, by mail or express, (at the Post-office or express office nearest recipient), to any place in the United States or Territories. —The other articles cost the recipient only the freight after leaving the manufactory of each, by any conveyance specified.*

Read and carefully Note the following: (*a*) Get subscribers anywhere; all sent by one person count together, though from one or a dozen different Post-offices. But....(*b*) Say with each name or list of names sent, that it is for a premium list, and we will so record it....(*c*) Send the names as fast as obtained, that the subscribers may begin to receive the paper at once. Any time, from now to June 30th, will be allowed to fill up your list as large as you may desire. The premium will be paid *whenever* you call for it....(*d*) Send the exact money with each list of names, so that there may be no confusion of money accounts....(*e*) Old and new subscribers all count in premium clubs, but a portion, at least, should be new names; it is partly to get these that we offer the premiums....(*f*) Specimen Numbers, Cards, and Show-bills, will be supplied free as needed by canvassers, but they should be used carefully and economically, for every extra copy of the paper costs, with the

2c. prepaid postage, about 12 cents....(*g*) Remit money in Checks on New York Banks or Bankers payable to order of Orange Judd & Co., or send Post-Office Money Orders. If neither of these is obtainable, Register Money Letters, affixing stamps both for the postage and registry; put in the money and seal the letter in the presence of the Postmaster, and take his receipt for it. Money sent in any of the above ways is at our risk.

If from any Cause one fails to get the larger premium desired, the names can be used for a smaller one.

A Full Description of the Premiums is given on an extra sheet; a copy will be sent free to every one desiring it. For *New* Premium 106, see page 32, January No. We have only room here for the following:

No. 42—Clothes-Wringing Machine.—A very useful, time-saving, strength-saving, clothes-saving implement, that should be in every family. The wringing of clothes by hand is hard upon the hands, arms, and chest, and the twisting stretches and breaks the fibres with lever power. With the Wringing Machine, the garments are passed rapidly between elastic rollers, which press the water out better than hand wringing, and as fast as one can pick up the garments.

No. 72.—Crandall's Improved Building Blocks furnish a most attractive amusement for children. Churches, Dwellings, Barns, Mills, Fences, Furniture, etc., in almost endless variety, can be built with them, and the structures remain so firm as to be carried about. The Blocks are put up in neat boxes, and with each box is a card giving many designs of buildings.

Nos. 76 to 81—Volumes of the American Agriculturist (Unbound).—These amount to a large and valuable Library on all matters pertaining to the Farm, Garden, and Household, and contain more varied information on these subjects than can be obtained in books costing three times as much. We have stereotype plates from the Sixteenth to the Twenty-seventh Volume complete, from which we print numbers as needed. The price of the volumes is $1.50 each, at the Office, or $1.75 if sent by mail, as they must be post-paid. They are put up in clean numbers, with full Index to each volume.—They are profusely Illustrated, the Engravings used in them having alone cost about $40,000. Those obtaining premiums for less than twelve volumes can select any volumes desired, from 16 to 27.

Nos. 82 to 87—Bound Volumes of Agriculturist.—These are the same *as* Nos. 76 to 81 above, but are neatly *bound* in uniform style, and cost us more for the binding and postage. Sent post-paid.

Nos. 88 to 99—GOOD LIBRARIES.—In these premiums, we offer a choice of **Books** for the **Farm, Garden,** and **Household.** The person entitled to any of the premiums 88 to 99 may select any books desired from the list on page 226, to the amount of the premiums, and the books will be forwarded, *paid through* to the nearest Post-Office, or Express office, as we may find it most convenient to send them.

No. 100—General Book Premium: Any one not desiring the specific Book premiums, 88 to 99, may select Books from list on page 226, to the amount of 10 cents' worth for each subscriber sent at $1: or 30 cents for each name sent at the (ten) club price of $1.20 each: or 60 cents' worth for each name at $1.50. *This offer is only for clubs of 25 or more. The books will be sent by mail or express, prepaid through by us.*

A Few Dollars' worth of books pertaining to the farm will give the boys new ideas, set them to thinking and observing, and thus enable them to *make their heads help their hands.* Any good book will, in the end, be of far more value to a youth than to have an extra acre of land on coming to manhood. The thinking, reasoning, observing man, will certainly make more off from 49 acres than he would off from 50 acres without the mental ability which reading will give him. Far better to sell the acre of land, than do without the books. Several good books are announced in the Advertising columns, and in the list on page 226.

No. 106—Pocket Rifle.—(Breech Loading).—A full description of this beautiful implement, with illustrations, was given on page 32, of Jan. No. No one who enjoys shooting, or who has occasion to carry a light but effective weapon in traveling or while at work, will regret the trouble required to gather the 24 (or 18) subscribers required to secure this weapon free. ☞ If any one does not care for the mahogany case, we will present the weapon all complete, with extension breech and 100 cartridges, all packed in a strong pasteboard box, neatly papered, on receipt of 18 subscribers for 1869 at $1.50 each,

YOU WANT

No. 3 Agricultural Annual, for 1869.
No. 2 Agricultural Annual, for 1868.
No. 1 Agricultural Annual, for 1867.
No. 3 Horticultural Annual, for 1869.
No. 2 Horticultural Annual, for 1868.
No. 1 Horticultural Annual, for 1867.

BEAUTIFUL——VALUABLE——CHEAP.

SENT POST-PAID FOR 50 CENTS EACH,

or

GIVEN AWAY,

(as noted below.)

Our **Agricultural Annual No. 3,** for 1869, and our **Horticultural Annual No. 3,** for 1869, are among the most valuable and beautiful volumes issued in this country during the present year. They are *packed full of good information,* and each volume contains a large number of beautiful engravings. They are worthy a place in *every* family, in City, Village, and Country. They are universally admitted to be the cheapest volumes issued. They are original, the matter and engravings being all prepared exclusively for these volumes by a large number of first class practical writers. As these books are a permanent Annual Institution, we want everybody to have a copy, for all who get them this year will be sure to want the numbers for 1870 and thereafter. We therefore invite everybody who has not done so already, to send only 50 cents, and secure a post-paid copy of either the Agricultural Annual No. 3, or the Horticultural Annual No. 3, or send $1 and get both of these volumes. They are entirely different.

But we will do even better, *when desired,* **viz.:** To

☞ any person sending during **May** or **June** a subscriber to the *American Agriculturist* for 1869 at the regular price ($1.50), we will present a copy of any one of the above six Annuals that may be desired, and we will send it post-paid to any point in the United States or Territories....A few minutes' work or talking will enable any person to secure a subscriber to the *Agriculturist* (as valuable as we are now making the paper), and then the *Annual* will be obtained *free.*

N.B.—*One* Annual is offered for *each* subscriber sent at $1.50. The sender can choose any one of the six Annuals already issued, named above. One, two, three, four, or more subscribers will secure an equal number of Annuals, of any issue desired. (Two subscribers for six months count as one for a year.)....N. B.—These premium Annuals are special, and are not included in the general premiums, which are continued, as noted elsewhere.

Commercial Matters—Market Prices.

The following condensed, comprehensive tables, carefully prepared specially for the *American Agriculturist,* show at a glance the transactions for the month ending May 14, 1869, and for the corresponding month last year.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

Receipts.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
26 days *this* m'th.	182,000	387,000	541,000	11,000	41,000	287,000
26 days *last* m'th.	146,000	779,000	497,000	3,800	36,500	101,000
Sales.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
26 days *this* m'th.	217,500	1,098,000	1,448,500	76,500	121,000	986,000
26 days *last* m'th.	201,000	1,157,000	1,203,000	74,000	144,000	994,500

2. *Comparison with same period at this time last year.*

Receipts.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
26 days 1869	182,000	387,000	541,000	11,000	41,000	287,000
26 days 1868	218,000	1,786,000	1,101,000	93,000	837,000	972,000
Sales.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
26 days 1869	217,500	1,098,000	1,448,500	76,500	121,000	986,000
26 days 1868	325,000	1,967,000	1,858,000	133,000	141,000	1,361,000

3. *Exports from New York,* Jan. 1 *to* May 13:

	Flour.	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
1869	337,389	2,643,860	1,173,235	——	——	39,583
1868	319,202	1,708,175	2,909,014	153,093	——	35,469

4. *Stock of grain in store at New York:*

1869.	*Wheat,* bush.	*Corn,* bush.	*Rye,* bush.	*Barley,* bush.	*Oats,* bush.	*Malt,* bush.
May 11	1,036,048	394,156	107,502	17,684	613,166	77,677
Apr. 10	1,684,633	1,080,769	165,008	48,281	1,178,740	66,664
March 13	1,990,416	1,301,167	211,880	81,616	2,000,457	59,051
Feb. 10	2,708,609	1,407,648	228,182	91,284	2,390,529	88,034
Jan. 18	3,524,172	1,509,233	263,260	54,740	2,864,354	236,001
1868.						
Dec. 14	3,475,544	2,005,819	287,101	342,921	3,044,594	99,526
Nov. 10	1,821,057	2,773,309	123,248	371,055	2,082,798	23,691
Oct. 12	483,806	2,508,744	81,825	22,026	1,393,986	59,651
Sept. 9	246,549	2,143,590	——	16,990	256,427	91,094
Aug. 11	585,370	1,611,468	——	575	489,100	92,995
July 13	592,919	1,460,412	28,897	575	780,825	57,138
June 10	1,576,797	1,326,171	51,460	575	527,364	11,565
May 12	379,842	1,039,621	33,341	——	493,494	8,705
Apr. 13	686,630	1,228,259	8,276	13,235	891,199	——

CURRENT WHOLESALE PRICES.

	April 14.	May 14.
PRICE OF GOLD	132¾	138
FLOUR—Super to Extra State	5 55 @ 7 15	$5 50 @ 7 10
Super to Extra Southern	6 40 @13 00	6 50 @12 75
Extra Western	6 00 @12 50	6 10 @12 50
Extra Genesee	7 20 @10 00	7 10 @ 9 75
Superfine Western	5 50 @ 6 00	5 70 @ 6 10
RYE FLOUR	4 85 @ 7 00	4 65 @ 6 85
CORN MEAL	4 25 @ 4 75	4 35 @ 4 90
WHEAT—All kinds of White	1 60 @ 2 25	1 65 @ 1 90
All kinds of Red and Amber	1 35 @ 1 75	1 38 @ 1 65
CORN—Yellow	89 @ 93	86 @ 90
Mixed	86½@ 91½	80 @ 87½
OATS—Western	76½@ 78½	83 @ 86½
State	— @ —	Nominal.
RYE	1 35 @ 1 40	1 33 @ 1 38
BARLEY	1 80 @ 2 15	1 75 @ 2 00
HAY—Bale ₱ 100 lb	55 @ 1 25	60 @ 1 25
STRAW, ₱ 100 lb	75 @ 1 15	80 @ 1 15
COTTON—Middlings, ₱ lb	28½@ 29¼	28½@ 29½
HOPS—Crop of 1868, ₱ lb	5 @ 12	5 @ 10
FEATHERS—Live Geese, ₱ lb	77½@ 85	75 @ 85
SEED—Clover, ₱ lb	14¼@ 15¼	13 @ 14
Timothy, ₱ bushel	3 45 @ 3 65	3 75 @ 4 25
Flax, ₱ bushel	2 70 @ 2 85	2 60 @ 2 75
SUGAR—Brown, ₱ lb	11¼@ 13¼	10¾@ 13¾
MOLASSES, Cuba, ₱ gal	35 @ 60	35 @ 60
COFFEE—Rio, (Gold, in bond)	9 @ 13	9¼@ 13
TOBACCO, Kentucky, &c., ₱ lb	6 @ 16	5 @ 16
Seed Leaf, ₱ lb	7¾@ 75	8 @ 75
WOOL—Domestic Fleece, ₱ lb	45 @ 60	45 @ 60
Domestic, pulled, ₱ lb	35 @ 48	33 @ 47
California, unwashed	20 @ 37	22 @ 35
TALLOW, ₱ lb	11¼@ 11½	11¼@ 11¾
OIL-CAKE—₱ ton	47 00 @50 00	49 50 @53 00
PORK—Mess, ₱ barrel	30 50 @30 75	30 75 @31 00
Prime, ₱ barrel	26 50 @27 25	25 75 @26 00
BEEF—Plain mess	8 00 @16 00	8 00 @16 00
LARD, in trcs. & barrels, ₱ lb	17¼@ 18¾	16¾@ 18¾
BUTTER—Western, ₱ lb	23 @ 40	23 @ 38
State, ₱ lb	40 @ 50	35 @ 43
CHEESE	10 @ 22½	10 @ 23
BEANS—₱ bushel	2 40 @ 3 30	2 25 @ 2 90
PEAS—Canada, full, ₱ bush	1 25 @ —	1 50 @ 1 55
EGGS—Fresh, ₱ dozen	35 @ 38	17 @ 19
POULTRY—Fowls, ₱ lb	20 @ 25	21 @ 24
Turkeys, ₱ lb	23 @ 27	22 @ 24
POTATOES—₱ bbl	1 50 @ 3 00	1 00 @ 2 25
APPLES—₱ barrel	3 50 @ 7 50	5 50 @ 7 00
SWEET POTATOES, ₱ bbl	5 50 @ 6 50	— @ —
TURNIPS—₱ bbl	1 50 @ 1 75	75 @ 1 00
CABBAGES—₱ 100	9 00 @18 00	— @ —
ONIONS—₱ bbl	6 00 @ 8 00	8 00 @15 00
GREEN PEAS—₱ bushel	— @ —	1 50 @ 2 00
TOMATOES, Bermuda, ₱ crate	— @ —	1 00 @ 1 50
STRAWBERRIES—₱ quart	— @ —	35 @ 75

Gold advanced materially during the month under review, having been as high as 139⅛, but it closes at 138. ....There has been a fairly active inquiry for most kinds of breadstuffs, which, however, have been offered freely, as a rule, at fluctuating prices. Export buyers have been purchasing common flour and Spring Wheat quite extensively, at the ruling figures. There has been a good home and speculative trade reported in Corn and Oats, but at irregular quotations. Flour, Wheat, Corn, and Rye, close with reviving firmness, on a pretty lively inquiry for desirable lots. Oats leave off heavily, in view of the large amounts coming forward by rail. Some contracts are being made to deliver No. 2 Spring Wheat within the next twenty days on the basis of $1.44c.@$1.45c. per bushel, for export. Stocks have been reduced, holders having been quite willing sellers, nearly all the month. ....Provisions have been in very moderate request, but are closing steadily, on a somewhat better inquiry.... Wool has been less sought after, and, under accumulating supplies, prices have favored purchasers....Cotton has been moderately dealt in, closing heavily... Hops

and Seeds close tamely, at lower prices....The main inquiry for Tobacco has been for low grades, for shipment, at firm prices....Hay, Hemp, and Rice have been quiet.

New York Live Stock Markets.—

WEEK ENDING.	Beeves.	Cows.	Calves.	Sheep.	Swine.	Tot'l.
April 19th.....	6,654	69	1,573	21,583	14,230	44,309
do. 26th.....	6,023	77	2,243	13,986	20,516	42,870
May 3d.....	5,677	71	2,164	18,761	22,427	49,100
do. 10th.....	7,239	67	2,894	18,053	20,287	48,540
Total in 4 Weeks....	25,592	274	8,874	72,683	77,490	184,819
do. *for prev. 4 Weeks*	23,538	339	4,038	85,597	60,470	173,812

	Beeves.	Cows.	Calves.	Sheep.	Swine.
Average per Week.....	6,398	68	2,218	18,171	19,372
do. do. *last Month*....	5,839	84	1,009	21,399	15,117
do. do. *prev's Month*...	5,246	91	706	21,984	10,181
Average per Week, 1868.	5,733	105	1,588	27,182	18,809
do. do. do. 1867.	5,544	61	1,320	22,154	20,605
do. do. do. 1866.	5,743	94	1,200	20,000	13,000
do. do. do. 1865.	5,235	118	1,500	16,091	11,023
do. do. do. 1864.	5,161	145	1,511	15,315	12,676
Total in 1868.....	298,128	5,465	82,571	1,413,479	978,061
Total in 1867.....	293,832	3,309	69,911	1,174,154	1,102,643
Total in 1866.....	298,880	4,885	62,420	1,040,000	672,000
Total in 1865.....	270,274	6,161	77,991	836,733	573,190
Total in 1864.....	267,609	7,603	75,621	782,462	660,277

The supply of beef cattle has been steadily increasing since the month opened. The weather has been dry and, for the season, cool, and trade steady. Almost every market day the desirable stock was disposed of by noon, and but few stall cattle remained over from day to day unsold. Prices varied somewhat on different days for the same quality of beef, and some drovers felt rather glum at the unsteady prices. Those who paid high prices at Buffalo and were obliged to drop ½c. per pound to make a sale, felt sore. The great supply of mutton and increased number of calves for sale always affects the trade in beef. Butchers complain of a dull fresh meat market. This is the "shad season" and eggs are plenty and cheap, and it is not to be wondered at that the consumption of meat is lessened. As we close our report, May 13th, trade is a little down, owing to the large supply on hand, and owners are in low spirits. The following list gives the range of prices, average price, and the figures at which the largest lots were sold:

Apr. 19.ranged 11 @17c. Av. 15¼c. Largest sales 14 @16
do. 26th do. 11 @17½c. do. 14½c. do. do. 14 @15½
May. 3d do. 12 @17c. do. 15½c. do. do. 14½@16
do. 10th do. 11½@16½c. do. 14½c. do. do. 14 @16

The average quality of the stock for the past month has been fair. Some weeks the range was wide, when Western still-fed cows and bulls were for sale. These last always sell slowly at the low prices given above. The fair to prime stock sold quickly at 16½@17c. per pound, net weight. There were none really fat or what might be called prime in market. The highest price paid was 17½c. for good young steers, well fed and "juicy." Small lots of fair stock generally brought 16c., and seldom above that figure for the "bunch." Large sales, when all were included, dropped in some cases as low as 14½@15c. The market may be said to have improved in quality, with a decline in price of about 1c. per pound over prices paid last month....**Milch Cows.**—The market is too full of poor cows, which sell slowly or not at all. Trade has been dull, but when a really good cow was offered it soon found a purchaser at from $80@$90; some few fancy cows have sold as high as $110@$125 each. Prices may be said to remain unchanged. Poor to medium cows were offered at $45@$60 each, and from this all the way up to $90 were paid, the price depending upon age and milking quality....**Veal Calves.**—The supply has been very abundant all the month and trade steady. Prices have declined somewhat, except for very fat veal. Very extra may be set down at 12c. per pound, but most of the high sales are at 11c. Prices are quotable at 9c.@11c. per pound. Mixed calves sell by the head for from $10@$11 each....**Sheep.**—There has been a little falling off in arrivals for the last month; still, sales are slow. The supply of other meats being in excess of demand keeps mutton low in price, even for good sheep. Good, fat sheep sell for 8c.@8¼c. per pound; medium 7c.@7½c.; while those light and small go for 6c. per pound....**Swine.**—The arrivals have been numerous and trade fair all the month. Prices vary but little from those paid last month. Fewer dressed carcasses are coming in just now and the live hog trade is picking up a little. Dressed hogs sell for 12c.@12½c. per pound. Live hogs are quoted at 9¾c.@10½c. A few that were really extra fine sold as high as 10¾c., live weight.

Back Volumes Supplied.—The back volumes of the *Agriculturist* are very valuable. They contain information upon every topic connected with rural life, out-door and in-door, and the last ten volumes make up a very complete library. Each volume has a full index for ready reference to any desired topic. We have on hand, and print from electrotype plates as wanted, all the numbers and volumes for ten years past, beginning with 1857—that is, Vol. 16 to Vol. 27, inclusive. Any of these volumes sent complete (in numbers) at $1.75 each, post-paid, (or $1.50 if taken at the office). The volumes, neatly bound, are supplied for $2 each, or $2.50 if to be sent by mail. Any single numbers of the past ten years will be supplied, post-paid, for 15 cents each.

containing a great variety of Items, including many good Hints and Suggestions which we throw into smaller type and condensed form, for want of space elsewhere.

Postage.—To our *published terms* for the *American Agriculturist*, postage must in all cases be added when ordered to go out of the United States. For Canada, send twelve cents besides the subscription money with each subscriber. Everywhere in the United States, *three cents*, each quarter, or *twelve cents*, *yearly*, must be prepaid at the Post-office where the paper is received.

How to Remit:—Checks on New-York Banks or Bankers are best for large sums; made payable to the order of **Orange Judd & Co.**

Post-Office Money Orders may be obtained at nearly every county seat, in all the cities, and in many of the large towns. We consider them perfectly safe, and the best means of remitting fifty dollars or less, as thousands have been sent to us *without any lose*.

Registered Letters, under the new system, which went into effect Oct. 1, 1868, are a very safe means of sending small sums of money where P. O. Money Orders cannot be easily obtained. *Observe*, the *Registry fee*, as well as postage, *must be paid in stamps* at the office where the letter is mailed, or it will be liable to be sent to the Dead Letter Office. *Buy and affix the stamps both for postage and registry, put in the money, and seal the letter in the presence of the postmaster, and take his receipt for it.* Letters thus sent to us are at our risk.

The Pacific Railroad Completed.—It is not within our province to record the ordinary news events of the day, but we cannot refrain from a word of congratulation at the completion of the great work which unites the States of the Pacific with those of the Atlantic. Aside from the great commercial advantages it brings with it, the effects upon the agriculture of the country will not be less marked. A large farming population will soon spring up along the route, with every advantage presented by a new country, while in ready communication with the great markets. The products of the fertile fields and teeming vineyards of California will find a new outlet, to the benefit of both East and West. More than this, long suspended social intercourse will be resumed, and those who have dreaded the heretofore long journey can now revisit the homes of their youth, and thus that acquaintance of the people of the widely separated parts of our country, which is so essential to our national peace and happiness, may be maintained.

Bound Copies of Volume XXVII (1868) are now ready. Price, $2, at our office, or $2.50 each, if sent by mail. Any of the previous eleven volumes (16 to 26) will be forwarded at the same price. Sets of numbers sent to our office will be neatly bound in our regular style for 75 cents per volume, (50 cents extra if returned by mail.) Missing numbers supplied at 12c. each.

President Wilder Strawberry.—"C. F.," Boston, sends a criticism upon the propriety of the above name. He holds that the title "President" should be kept distinctive for things and objects which have relation to the President of the U. S. We suppose that the committee of the Hort. Society who named this variety were aware that there was already a European variety called "Wilder," and it was necessary in coupling the name of the originator with the fruit, to use some distinguishing prefix.

About Engravings.—Some journals, despairing of ever being able to equal our illustrations in accuracy and elegance, become very much exercised over them. The Country Gentleman finds that the picture of "Herons and their Nests" published in April last, was taken from a chromo-lithograph which appeared in London, and intimates that the artist palmed off an old picture upon us, as original. Our artists would not do such a thing if they could, and could not if they would. The picture was not taken from a chromo, and the name of the artist who painted the original is plainly and fairly given. The Prairie Farmer, which would never have made the discovery itself, takes up the cry of the Country Gentleman and rushes to print the statement that we have copied an English chromo, and tries to convey the impression that we have published the picture as original. If either of these papers knew anything about such matters they would see that we complied with everything that justice and courtesy require by giving the name of the artist. That this picture has been copied in colors and in wood engraving in London we were well aware, and there is nothing about its appearance in our paper that shows any thought of presenting it as original. If we use a foreign picture as the basis of one for ourselves we are always careful to give the credit to the artist. "Copy-right secured" seems to trouble some people. "Father," said a boy who was hoeing corn, "the fish would bite first-rate to-day." "Yes, my son," said the father, "but if you attend to your business they won't bite *you*." The force of which remark "consists in its application."

Maple Sugar.—C. A. Simon, of Boardman, O., sent us a package of Maple Sugar which was very fine, some of it quite dry, and fit for any household use, and some in nice cakes, which was really delicious. Thanks, Simon. We wish a hundred times more of this good article were made yearly, as there might be, if proper attention were given to it. Some one else, from a great distance, sent us a box of maple, without thinking that the Express charges would be about a dollar a pound. It was sweet, though. We forget the name.

Seedling Grapes.—The Nauvoo, Illinois, Horticultural Club offers premiums for seedlings, as follows: $100 for the best six pounds of grapes raised from the seed of *Vitis cordifolia*, or *V. æstivalis*, and $30 for the second best; $50 for the best six pounds raised from the seed of *V. Labrusca*; and $50 for the best raised from the seed of any variety to ripen not later than the Hartford Prolific. Premiums to be awarded in 1872.

Potatoes upon Sod.—A Canadian subscriber thus describes his practice in planting potatoes on sod. (Why not say under the sod?)—"We turn under the sod in spring, at planting time, with two plows on two separate lands, and the boys drop the cuttings six to nine inches apart in every third furrow, and going from one land to the other, the plowmen keeping account of their "thirds" as they come to them. When planted, it is well harrowed and rolled, and when the plants or weeds come up, it is well harrowed lengthways in dry weather, until the plants are over six or seven inches high, when it is lightly ridged up, and then afterwards leveled again, as the weeds grow until final ridging up."

Sundry Humbugs.—Several months ago, when "One Dollar Stores" were just in the hight of their activity, and while every thing, to all exterior appearances, seemed honestly conducted, we ventured to pronounce them ill-advised, impractical, and unsafe, and predicted the downfall which has come to most of them. There now exist but one or two of the "One Dollar Stores" out of the dozen or more that were in operation in New York a month ago. The high-sounding name of "New York Jewelers' Co-operative Union" started the largest store of this sort, and had for sale Oroide, brass jewelry, glass diamonds, ladies' and children's under-garments, flannels, etc. This concern flourished about six weeks, but one morning it was gone, and in the place of the gay decorations in the windows was the sign "Store to Let." We were in hopes the thing had, as the boys say, "died dead," but it had not, for now they are at the lottery dodge. In reality, this is their old trade, the "New York Jewelry Co-operative Union" being only a name to entrap people into buying tickets in a lottery. We warn people against the Association, and at the same time thank our Mayor for his timely letter, cautioning all strangers against such concerns. This letter was given last month, and should be copied by every honest newspaper in the country. Our Mayor's good work, however, does not end here. He has taken upon himself the business of shutting up several "Quack Doctor Shops," and he declares his determination to rid the city of those vile pests. The "New York Medical University" was the first to receive his attention. He found it to be a University only in name, and Doctor J. Walter Scott and Wm. Tripp were ordered to appear at the Mayor's office to answer to the charge of swindling. Their answer not being satisfactory, they were sentenced to the full penalty of the law. He has several others up under indictment for swindling. Photography, also, comes in for its share of notice by the city courts, and a "Spiritual Photographer" was called up on the charge of obtaining money under false pretenses. The photographer professed to take pictures upon which a likeness of some deceased relative or friend should appear with that of the sitter. The accused claimed that this was the work of the spirits, and though the contrary could not be proven, it was shown by experts that there were several ways in which the same thing could be done without troubling the spirits....Messrs. William Nicholson & Co., your "General Detective Collectors" may be all very well, but we shall not advise people to employ such means to have their bills collected....Good for the Androscoggin Herald, published at Mechanics Falls, Me.! We hope that the example of the *American Agriculturist* will soon tell

in other directions. The above named "Herald," being about to make a change in the paper, says: "But our ground feature is to be something widely different from any other paper published in the State of Maine, and, indeed, almost any other weekly in the United States. We are bound to undertake what no other daily or weekly and only a few of the monthly papers have had courage or *principle* enough to undertake. We shall, from the date that our sheet appears in its new dress, henceforth *publish nothing, neither in advertising or reading columns, that partakes, in any degree, of humbug or swindle.* No patent medicines, lotteries, one dollar sales, nor those worst of all swindles, private circulars to "females in poor health," and letters to indiscreet young men, will be advertised. In short, we shall advertise nothing from which the purchaser would not receive a fair equivalent for his money. On this principle, which we believe to be the only true and just one, we shall stake our success as a newspaper." Such a paper deserves success, and we hope it may meet with it. We commend its example to some very prosperous religious and agricultural papers. . . .Gumbridge, whom we have before shown up as one of the dealers in fac-similes of U. S. Treasury notes, is the subject of an amusing letter from U. S. Treasurer Spinner, at Washington, to Police Superintendent Kennedy, of New York. Gumbridge proposes to send fac-similes of currency, and some fools, or scoundrels, infer from his circular that he counterfeits notes which can be passed. They send money to Gumbridge, who returns reduced photographic copies of the notes. We are at loss to say which is the more culpable of the parties in the transaction. Gumbridge gets money under false pretenses, by promising fac-similes of the notes, and sends copies differing in size, while those desiring to obtain possession of them evidently have the intention of making money dishonestly by the operation.

Poultry Houses.—"W. H." likes the "Poultry House at Ogden Farm," and asks: 1. "Is the 5-foot wall as good made 8 or 9 feet high? 2. Why is the sash sloping instead of perpendicular? 3. Would not a framing with tight outside and inside boarding, with hay, or tan, or sawdust be as warm as the stone-wall and dryer? 4. Would not air-space be just as good for all purposes, omitting the filling in? 5. If, instead of fifty fowls, accommodations are wanted for six times that number, will the expense of the structure, divided in six parts, cost over four times that of the Ogden?"—*Answers.* —1. The wall was already in place, and not built for the purpose. It is high enough, and better for cold weather than if higher. 2. A sloping sash admits more sun than a perpendicular one. 3. Yes, in winter, but in summer it might be damp and mouldy, and would harbor vermin. 4. No. It would be almost impossible to make it tight enough to prevent a circulation of the air. 5. The cost would be less, in proportion to the number of fowls, for the larger house—probably not so much as one-third less. It would be better for the fowls to be in small buildings, at a moderate distance from each other, than to be in different apartments under the same roof.

Lamp Wicks.—Mrs. S. A. Philip writes a word to Aunt Hattie.—"You say you have known it to be necessary to harness the horse and drive to town for lamp wicks. We live in the backwoods, twelve miles from a store, and husband never can remember such a trifle, he thinks, as lamp wicks; so I have given up asking him to get any. Several years ago I saw in some paper how to make them. Take a strip of Canton flannel three times the width of a wick, double it, so it will be three thicknesses, the smooth side out, and sew the raw edge and the doubled edge together over and over. Do not get it too large, and it will burn as well as the best sale wick. Every one generally has scraps of Canton flannel in the house, so that all a wick will cost will be about five minutes' work."

Leaky Teats in Cows.—"J. C.," Columbus, Ohio, writes: "I have a valuable cow that loses her milk; at times it runs from her in streams. Will you give me a remedy?"—*Ans.*—Milk three times a day, say at five in the morning, at noon, and at eight in the evening. If this does not stop it, have a little collodion, (which is gun cotton dissolved in ether) to be had of all druggists or photographers, and put a drop upon the end of each teat after milking, being careful not to touch it to a sore spot, or the cow will kick. The hole need not be covered except in extreme cases, for a little ring of collodion will shrink in drying and draw the hole together.

Poke-weed Again.—A Richmond correspondent of the London Field states that the Poke-weed, Poke-berry, or Pigeon-berry, is never used in Virginia as food, and the Field asks for information. If the Virginians do not use it, so much the worse for them; the only difficulty we ever found with the young shoots was our inability to get all we desired. De Voe, in his Market Assistant, puts them down among the vegetables to be found in the markets of our large cities.

The Naomi Raspberry.—We have read all that has been published upon this variety, and conclude with Betsey Prigg that "there ain't no such pusson." The best that can be said about the Naomi, if any one has *the* Naomi, out of the many so called, is, that it is so near like the Franconia that no one can tell the difference, but it is suspected of being a little hardier.

The St. Petersburgh Horticultural Congress.—The only American that we have thus far heard of, as being invited to serve on the committees of this International Exhibition, is Dr. Charles Siedhoff, North Hoboken, N. J., well known as the "Horticola" of various journals. We regret that Dr. S. declined, as he would have creditably represented American horticulture at this most important exhibition.

Lice on Honeysuckles.—Mrs. J. B. Doe writes that she has successfully used wood ashes sifted over the vines just before a shower.

Draining a Garden.—"F. H." If we understand the shape of your garden we should advise four drains the whole length of it. In very stiff soils, where thorough drainage is needed, the tiles are sometimes put still nearer.

Cut-Worms.—Mrs. "M. L. H.," Peoria, Ill., says: "Tomato, cabbage, sweet potato, and all similar plants, can be protected from cut-worms by a little strip of paper around their stems, extending from near the roots to about an inch above the surface of the ground. The trouble is comparatively small."—This is not new, but we give it again, as it may be useful to some. It will do very well in small gardens, but where one plants cabbages, etc., by the acre, it would be impracticable.

The Native Countries of Plants.—Mrs. Harriet Beecher Stowe writes from Florida: "Sweet potatoes, sugar cane, rice, cotton, melons, and cucumbers, all of which are the native growth of the soil."—This will be news to those who have given attention to such matters. De Candolle, who is the highest authority on geographical botany, does not assign either of these plants to North America.

Scale Louse from N. C.—J. G. Frowey sends us a portion of a branch very badly infested with some kind of Coccus, but does not say what tree it is from. The bark is very much disfigured, and we can only guess that it is that of an orange tree. Persons who send us insects should always give the name of the plant upon which they are found.

Price of Potatoes.—By an oversight in dropping two lines of type from the advertisement of Messrs. L. D. Scott & Co., in the April number, they were made to offer Bresee's Prolific at far less than cost. The correct reading is in their advertisement in the March number, page 111. Those ordering from this firm will please make a note of the fact.

Beet Sugar.—Mrs. S. A. Philip.—The process for extracting sugar from beets requires too much machinery to allow it to be followed in the family.

More Grubs with Fungi.—After page 220 was made up we received from T. H. Winder, Johnson Co., Kansas, specimens of grubs similar to those there described. Mr. W. says that he has seen the parasitic plant four inches long. He wishes to know "what they are and what they will be." We have told on the page above cited all that we know as to what they are, and hope that Mr. W. will carefully observe them and assist us in finding out what they will be.

Best Roots for Milch Cows.—"G. W. A.," Lawrence Co., Ind. Sugar Beets are probably the best roots you can raise for cows. The season is usually a little too far advanced by the first of June for them to do very well, and we advise you to raise also Swedish turnips (ruta-bagas) and cabbages, which will make full crops with proper care. See Hints about work.

The "Meshannock" Potato.—"C. L.," Sanpete Co., Utah. The Meshannock is known at the East as the Mercer and Chenango. It is a most excellent variety, which of late years has proved very unproductive and liable to disease. Those sent, the finest we have seen for years, are planted and we will report results.

Fishing in American Waters. By Genio C. Scott. New York: Harper & Brothers. We have not had time to examine this handsome volume. Its author has long been known as a leading writer on angling matters, and if the instructions he gives are in keeping with the beautiful manner in which they are presented, they will be of great value to sportsmen.

North-Western Hedge Plant Growers' Association.—A meeting will be held at Mendota, Ill., on the 23d of the present month. A full attendance of plant growers and an interesting time are expected. H. N. Pease, Bloomington, Ill., is the Secretary. Any one engaged in growing hedge plants may become a member by the payment of one dollar.

Plums.—"C. Porter," Lehigh Co., Pa., finds his plums set every year, but that they all drop when half grown. Probably C. P. does not know the curculio by sight. Let him spread a sheet under the tree as soon as the plums are fairly set, and give the tree a sudden jar. He will soon discover the cause of his trouble in the shape of a small beetle. If he expects to have plums, he must do this every morning.

Refuse Glue.—"J. H.," Wheeling, Va., asks, "What value is there in the refuse of glue manufactories as a fertilizer?"—*Ans.*—Nitrogen, if it contain any glue or animal matters. If it is soluble, dissolve it, and add it to your compost heaps.

Trailing Arbutus.—"J. W. R.," Bethlehem, Pa. The Trailing Arbutus, or May-flower, *Epigæa repens*, can be transplanted if its natural requirements are observed. It needs shade and a covering of leaves in winter. The best way is, to take up a large tuft, and place it in a situation as near as possible like that from which it was removed.

Potato Queries.—"Norwood," N. C. It is difficult to say what potato is best for a late crop. The old varieties are very uncertain, while the new ones are not well established. The Harison is a great cropper, sometimes good and again poor in quality. Gleason has done well, both in quality and quantity, in some places at the North. Rolling in plaster after cutting is good practice, or the sets may be exposed to the air to dry after cutting.

Worms on Vines.—"W. H.," Newark, N. J. We cannot say from the description which one of the many insect enemies of the grape vine troubles you. Vines, if trained so low as to have all parts within reach, can be daily visited, and all "worms" kept in subjection by hand-picking. With large, rambling vines the case is difficult. Did we know which insect it was we might suggest a remedy.

"Best's Improved Fruit Tree and Vine Insect Destroyer and Invigorator."—So many have written us about this, that we advertise it by giving the full title. Circulars without number have been sent to us, and people who have invested five dollars for the recipe send it to us, and ask if it is safe to use it. As the article is patented, the recipe is no longer a secret. We copy one from Bedford Co., Pa., which is the same as many others that have been sent to us: "One gallon Whale Oil, one quart of Pine Tar, one quart Coal Tar, two pounds Potash, two pounds Carbonate of Ammonia, to forty gallons of water. Mix the oil and the tar well before adding the other ingredients. Put the ingredients into a barrel, take cotton wool or straw, loose, three inches thick, then bind it around the tree, one foot above the surface. Every other morning, for ten days, early, before the sun gives much heat, with a watering pot wet the wool or cotton (how about the straw?) with the above preparation. This must be done in the spring, when the frost has left the earth, and the trees commence budding. It is very important that this should be strictly observed. When the trees are much decayed, this preparation should be used in the fall of the year."—Our correspondent states that the foregoing is a copy of the deed, allowing him to use it. The following are extracts from a pamphlet furnished by Mr. Best: "For wheat, let it dry; this will cause the grain to come up with strength, so the frosts of winter will not kill it, whether covered by snow or not; it will grow stronger, head heavier, and no weevil or fly will touch it, and dew or rain will not cause it to rust. The reason of this is, that the mineral substances of the invigorator connect with the mineral substances of the earth, and nitrogen and hydrogen form a power of life in the seed; a greater amount of this power, starting with the first growth, connects with the oxygen in the air, and swells the tree or stalk, as a greater amount of sap forms through the pores of the stalk, and the branches receive more, and being filled with the substances from the earth, receive a greater amount of carbon from the sun; it forms a greater heat, and produces a more vigorous bud on fruit trees, and rust will not gather on the head;

so the hardest frost will not affect the bud or head." We must apologize to our readers for publishing this farrago, but it is the best way to show up the absurdity of the thing. Much more nonsense might be quoted from Best's circular, now before us. A concern in Baltimore puts out a similar compound, which contains the same ingredients, but in different proportions. The case is just here. We have no doubt that a solution containing a considerable amount of potash and carbonate of ammonia, (an expensive article) if applied to fruit trees, or plants in general, will prove a serviceable manure, and that trees so treated will produce much better results than if altogether neglected, but no better than if given a generous supply of barn-yard manure every year. The whole secret lies in inducing people to do *something* with their trees. This patent application acts upon the same principle with all the "hair renovators," the directions for which read, "apply the liquid, and brush it in for half an hour." If people could be induced to use the brush for half an hour without the "renovator," the same result would be obtained. We are at loss to conceive how any one can read the circulars relating to these "Tree Invigorators" without seeing the ignorance and stupidity they display, and the preposterousness of their claims. The Ohio circular says: "When applied to the tree it penetrates every pore, destroying the worm in the heart, and by connecting with the mineral substances of the earth, destroys the cause and prevents the creation of any destructive insect," and so on, and so on. The Baltimore pamphlet says: "As an insect destroyer, applied to the tree or plant, it aims, by subtle action through the pores, (what pores?) to reach the worm (what worm?) wherever it has penetrated, while it will also combine with the mineral elements of the soil, to destroy the producing germ (what is that?) and prevent the creation of the hostile insect." It seems to us that this is a dangerous thing that proposes to interfere with "creation." Now, if any one wishes to invest $5 in the Maryland or the Ohio recipe, let him do it, but we ask everybody to please stop writing us about the "Tree Invigorator." Our time and space are too valuable to be devoted to such absurdities. We have "said our say."

"Muck"—"What is Muck?"—This question comes to us almost every month in the year, and now and then we answer it, as we would be glad to do twelve times in a year if that were necessary. "Muck is money," says an English proverb. Muck is manure in English parlance, and covers pretty much every thing that is soft or moist and pasty. We apply the word almost exclusively in our agricultural technology to the partly decayed vegetable matter of swamps and peat mosses—even applying it to peat fit for fuel, if it be used as manure or as an absorbent in cattle stalls. After getting it out, let it freeze and thaw, or if on drying it is not very hard and lumpy, compost it with lime and it will become fine and crumbly. It is often rich in ammonia and always useful in composts.

Chip Manure.—A subscriber says he has a quantity of chip manure on a small farm and would like to know if it is good as a top-dressing for wet land. [Not very]. "Is it valuable for composting with other fertilizers?" [Yes]. "Is it good for dry land, plowed or harrowed in?" [Yes, both]. In short, well-rotted chip manure is very good for almost any soil and for all crops, if there are not too many wire worms in it. To kill these, compost it or mix well with lime and salt, or lime slaked with brine.

Liquid Manure.—"C. M. F.," Boone Co., Iowa. The excrement of sheep or other animals may be used in the liquid form. Put up a barrel as for a leach and draw off the strong liquid from the bottom; dilute this to the color of ordinary tea, and apply it to plants only when they are in a growing state. If used when the plants are checked by drought it will prove injurious. On the small scale there is no better way than to apply it from the spout of a watering pot. It will be better to draw away the earth from around the roots of the plants, apply the liquid manure, and when this has soaked away, replace the earth. It need not be applied oftener than twice a week.

Weight of Rouen and Aylesbury Ducks.—As mentioned on page 209, these ducks, if pure and well bred, are very much heavier than common ones. Good-sized common ducks weigh from 6 to 8 lbs. per pair. Aylesburys which would weigh less than 10 lbs. would be below par, while Rouens ought to exceed this weight by 2 lbs. at least to be considered fair birds. Such are, however, only "fair." Choice breeding stock, when fat in the autumn, ought to bring down 16 lbs. at least; and American breeders ought not to be satisfied until they can compete with the English, and produce birds of both breeds which will weigh 18 lbs. to the pair. We believe that at the last Birmingham show, the prize Rouens weighed 19½ lbs., and the Aylesburys were nearly up with them. In 1866, at Birmingham, the three prize trios of Rouens weighed respectively, 19, 18½, and 17¼ lbs., and the best trio of Aylesburys, 18 lbs.

Texas Fever.—Dairy Stock for Illinois.—W. J. Jutkins, Champaign Co., Ill., asks: 1. "Is there any danger in pasturing cows on land where cattle have died of the Texas fever last year? 2. Is there any remedy, should there be any attacked with the fever? 3. Also, what breed of cows would be best adapted to this locality for a butter dairy? 4. Will cheese pay better at 25, than butter at from 35 to 40 cents per pound? 1. We suppose there is no danger at all. 2. So far as known, there is no cure, though medical treatment has, it is claimed, cured some cases. 3. With our present knowledge, we would recommend the Ayrshires, as being likely to produce, with good-sized Western cows, a superior class of cows for cheese making. 4. Cheese would pay better than butter at the prices named.

A Drooling Cow.—Horses are apt to drool or slabber when fed on certain kinds of fodder, but cows are not affected by such feed, and drooling is, in our experience, a rare thing with cows. "J. S. G." has a drooling heifer, which is fed and treated like other cows which do not drool. We would try sponging her mouth out three or four times a day with oak-bark tea, or dilute alum water, (the former being probably preferable,) letting her swallow some of the decoction. In case it should produce constipation, the second or third day give a pound of epsom salts, and an ounce of powdered ginger. If tried, please report the result.

Trichina.—A correspondent writes that he is informed that pork must be boiled in order to kill the Trichina, should it be present, and that frying will not answer. There can be no danger from the parasites if the pork is thoroughly heated through, so that all parts shall be brought to about the temperature of boiling water, and it makes no difference whether this is accomplished by boiling, frying, broiling, or roasting. The pork must be *well done*, and done entirely through....Raw ham is daily exposed for sale in the city restaurants, as is raw sausage. Why do not the Board of Health stop it?.... The appearance of an illustrated article on Trichina in one of the pictorial Weeklies reminds us that the first popular account ever given of this parasite appeared in the *American Agriculturist* in April, 1866.

Gravel-wall, or Concrete Houses.—Moses Hadley, Ind. You will find in the February, March, and June numbers of the *American Agriculturist* for 1865, full directions and numerous hints and suggestions in regard to making gravel-wall buildings. We know of no late treatise on the subject that has not a big axe to grind in the shape of some patent. This material, if good ingredients are used, is very cheap, durable, and strong, and there is no trouble about securing a handsome rough finish. Smooth sticks, three inches in diameter, placed in the lower course, twelve to eighteen inches apart, and drawn up as the wall rises, make a series of tubes, which prevent dampness striking through, and enable one to plaster on the inside without furring off from the outer wall.

Trial of Mowers and Hay-making Tools.—The New England Agricultural Society announces a trial of Mowing Machines and other haying tools, to take place at the Agricultural College farm, Amherst, on the 22d to 25th of June. All entries must be made before Saturday, June 19th, at the office of the Secretary of the Society, Col. Daniel Needham, Boston. Entrance fees as follows: Mowers, $50; Tedders, $25; Horse-forks, $20; Horse-rakes, $20.

Logging.—G. A. Porterfield, of Jefferson Co., W. Va., wants to know how to get logs out of a stream by which he can float them down to his farm. The banks are not high. It would not pay to have a regular "way" built, unless there were to be great use for it; but any ordinary logs could be rolled out thus: fix two timbers extending from the bank into the water at some distance from the shore, get the log parallel to the shore and resting against these skids; pass two ropes, each attached to the upper end of one of the skids, under the log and back to the shore. A pair of horses attached to each rope will roll out a heavy log. One pair made fast to both ropes would probably roll out common 16-foot logs. The ropes may be attached to a set of blocks, or to a windlass, and thus power enough be applied by a single horse or by hand even.

Agricultural Colleges.—J. T. Huger, Tyler Co., West Va. You will find statistics in regard to the various Agricultural Colleges in our Agricultural Annual for 1869. The Michigan College is the oldest, and is now in successful operation. Some Michigan people oppose it in the hope of serving certain ends of their own, but it still has a moderate support from the legislature. The Massachusetts College has been in operation only a short time, but it is already a success. The Pennsylvania College has been reconstructed so many times that it cannot be considered as being established with a permanent policy. The Illinois Industrial College is still in the embryo state. If the Cornell University at Ithaca, New York, has made any provision for agricultural education it has not informed us of it. Other schools, especially in the Western States, are in a more or less advanced state.

Agricultural Papers a Power.—Very few who do not read the correspondence of the agricultural papers have any idea of the hold they have upon the people. We do not often publish the commendations which come to us individually, but here is one which is so general that we give it as a specimen of hundreds. "C. C. D.," Minnesota, says: "I take four different papers, but we can hardly wait from one month to the next for our papers to come." "C. C. D." will find his questions about Rouen Ducks answered elsewhere in the present issue.

Asparagus.—"G. E. S.," Middletown, O. There is no reason why an asparagus bed cannot be made as well in autumn as in spring. All hardy herbaceous plants, of which asparagus is one, do better if transplanted in the fall than in the spring. The making of asparagus beds in spring is laid down in the books, and it seems very difficult to get people to take a common-sense view of the matter. Any thoroughly hardy plant may be set without detriment whenever it is at rest and the soil is ready.

Nutmegs in California.—The N. Y. Tribune has the following: "The nutmeg tree is indigenous to California. There is not a large number of the trees in the State, but nutmegs were gathered and sold in Placer county many years ago." The vitality of an error like the above is astonishing. The same statement appears every now and then in some paper, and now it is the Tribune's turn to keep it alive. There is in California an evergreen tree, related to the Yews, which from the shape of its nut is called the California Nutmeg Tree. It is no more a nutmeg than a Horse-chestnut is a Chestnut. The botanical name of the tree is *Torreya Californica*, the genus being named in honor of Professor John Torrey. There is a Torreya in Florida, a third in Japan, and possibly a fourth in China. The true nutmeg is as widely separated from the Torreya as a peach is from a pine tree. The resemblance of the fruit of the Torreya to the nutmeg ceases with its shape. As to flavor, the wooden nutmegs of Connecticut would be preferable.

Missisquoi Water and Powders.—Several have written us about them. A chemist of reputation and employed in a responsible position under the U. S. Government informs us that the Missisquoi water contains a smaller amount of mineral constituents than ordinary well water, and that he considers it a very pure and harmless water. We have no knowlege of what the advertised "Missisquoi powders" are, but if they really represent the Missisquoi spring our advice is to stick to the well or pump.

Wheat after Oats.—H. M. Tappan, Fulton Co., O., writes: "I have about ten acres, plowed up two years ago, it being a heavy sod. It has been planted to corn two years in succession, and is now in oats. Will it pay me to sow it to wheat next fall? The land is very rich, and is partly sand, and some clayish loam."—*Ans.*—It will probably pay to sow wheat on very rich land. If too much richness is not taken out of it, your wheat will do well. Of this you must judge. It is a very bad rotation, ordinarily, to let wheat follow oats. Put on three hundred pounds of Peruvian guano, and the wheat will probably do well enough.

Sweet Corn.—The lady who sent the sample of dried sweet corn is informed that it was remarkably fine. The owner of the patent dryer in which it was prepared should advertise it.

Sensible.—"G. H. S.," Beaver Dam, Wis., believes in obtaining the experience of others through agricultural books and papers. He says: "I have a strong conviction that there is no occupation in this western country in which systematic labor and persistent brain work are more needed than in farming. I am also just as thoroughly convinced, that if the business men of our country were to transact their business with as little system and head work as do most of the farmers, not one in ten could sustain himself for fifteen months."—Mr. S., we shall be glad of your experience, and the fact that you are unaccustomed to writing is no obstacle.

To Kill Briers.—"J. N. B.," of Rockingham Co., Virginia, has a great many "running briers" on his farm, and wants to know how to destroy them. If the land is under the plow, thorough cultivation will kill them. If not, we should mow them down with a brush scythe, and then pasture the field heavily with sheep as soon as they are sheared, so that the briers would not tear off the wool. The sheep would eat the leaves and weaken the plants, and ultimately kill them.

Land and Fresh Water Shells of North America.—The Smithsonian Institute is doing an excellent work in publishing in its Miscellaneous Collections treatises that it would be difficult to produce otherwise. This monograph of our land shells, so much needed by those who study shells, and calculated to aid the worker in this branch of natural history, would with difficulty find a publisher, as the demand for such works would not make it *pay*. It does, however, pay to have such works as this; they are useful not only here but abroad, and we are glad that the Smithsonian takes this method to "diffuse knowledge among men." It is to be regretted that the book does not inform us how it may be obtained. The illustrations are numerous, and the whole gives indication of honest and thorough work.

Gas-house Lime, and the Ammoniacal Liquor of Gas-works.—These substances form a valuable source of manure, of which, thus far, but little use has been made. The ammoniacal liquor is very strong, and should be filtered through dry earth, or used to saturate earthy compost heaps, and even then had better be employed with some caution. Applied in its raw state, it is very likely to kill all vegetation. The refuse lime from gas-works consists largely of compounds of sulphur and lime, all or most of which are injurious to vegetation; but if composted for a few months with refuse matter, such as chips, sods, leaves, weeds, or other porous rubbish, the chemical changes which take place reduce it gradually to the condition for the most part of lime, and sulphate of lime, or plaster, both of which are beneficial; this refuse, so treated, would have a greater agricultural value than would freshly burned lime.

Books.—Those who write us to know if there is any book on this or that subject should first look over the Book List, which usually is to be found in the advertising columns. We intend to keep every work relating to agriculture, horticulture, etc., whether published by us or not, provided it is a good and useful one. There are some works—generally neither good nor useful—that are sold by subscription. Farmers as a general thing would do well to be shy of agricultural book canvassers. A few good books are sold in this way, but the majority of such are trashy, and could never be sold if their sale depended upon their own merits, and not upon the representations of glib-tongued peddlers. The safest way is to order of the nearest bookseller, or by mail of the publishers, whoever they may be. There are some departments of agricultural and horticultural literature in which there are no good books, and these are being rapidly filled by the publishers of this journal and others. No one should undertake a special culture or branch of farming of any kind without first becoming familiar with the literature of the subject. Some one has happily remarked that experience is none the less valuable for being printed. But the prejudices against book farming are rapidly passing away.

Cultivation of Potatoes in N. C.—"S.," of Salem, writes: "With us a good clay, not too heavy, yields better potatoes than a sandy loam. If too rich, we get tremendous vines but a poor yield. Are these facts at variance with Northern experience? If so, is the climate the only cause?"—It is probably the only reason why clays are better than sandy or gravelly loams. The former hold moisture better. The kind of manure makes much more difference than the mere richness of the soil. Rank fresh manure makes vines, but well-rotted manure, especially if it has been composted and well worked over, may be freely applied to the benefit of the crop. The same must be true at the South, we think.

Superphosphate vs. Peruvian Guano.—"J. L. C.," Saratoga Springs, writes: "My farm comprises a variety of soils, such as sand and gravel, together with clay and alluvial low land; and I wish to try some of the commercial fertilizers. What is the relative value of Baugh's superphosphate and Peruvian guano? In this vicinity, the former has been used with satisfactory results, but very little guano has been tried. We depend mostly on gypsum."—We have used several tons of Baugh's superphosphate, and find it an excellent fertilizer for turnips, tomatoes, cabbage, strawberries, lettuce, cucumbers, melons, and garden crops generally. In an old garden, that has been liberally manured for many years, it has a magical effect. But on corn, on the writer's farm in Western New York, it has not been found profitable. And the same is true of Peruvian guano. Gypsum is our cheapest manure for corn. For potatoes, guano is better than superphosphate. On the lighter and poorer soils of the Atlantic slope, superphosphate may prove profitable for corn and other farm crops. On a farm having light gravelly upland, with clay and alluvial low land, our aim should be to develop the resources of the low land, and use the crops obtained from them to make manure for the upland. With this barn-yard manure, with artificial manures as an auxiliary, the fertility of the land may be maintained, and increased.

Plowing Heavy Land.—"G. C.," Staunton, Va., writes that he has been trying to plow a meadow of about thirteen acres, which has not been plowed in fifteen or twenty years, and has been most of the time covered with water. "I ditched it, and it is now apparently dry, but four horses are unable to pull a No. 5 Livingston plow through it on account of the toughness of the sod, and the stiff character of the soil. Can you or your 'Walks and Talks' give me any suggestions?"—We presume the draining has been accomplished by surface drains, and is still quite imperfect. Instead of plowing, it might be better to harrow the sod thoroughly, and sow grass seeds on it. If the toughness of the sod is owing to the ground being full of quack, and it is decided to plow it, we would put on a three-horse steel plow, with a sharp coulter, and not attempt to go any deeper than the three horses can draw with the ease of ordinary plowing. "W. and T." had a heavy clay field that had not been plowed for a dozen or more years, into which he could not get the plow more than three inches. He scratched it over with the plow the best way he could, sometimes going in for a yard or two four or five inches deep, and sometimes not more than two inches, and sometimes not that. It was wretched work. But during the summer, the sod rotted more or less, and being occasionally harrowed, it acted as a mulch, and kept the soil underneath moist, and in the course of a few months it was plowed again, deeper and better, and sown to wheat. This was a mistake. It should have been "fall-fallowed." After the fall rains it might have been plowed a reasonable depth, and after a winter's exposure, would have been in fair condition for a crop of oats. Should we have such a case again, especially if there was quack grass in the land, we would fallow it for eighteen months, and then seed it down with timothy in August or September without any grain sown with it. On heavy clay land, an eighteen months' fallow, if the work is thoroughly done, would develop a large amount of plant-food, and there is no danger of its leaching out. Such treatment ought to make a splendid meadow.

Potatoes Manured with Leaves. Much on the principle of raising potatoes under straw. "S.," of Salem, N. C., says that one of the best potato growers in North Carolina practices covering the potatoes with 8 to 12 inches of leaves. He raises the same crop year after year, and makes no other return to the soil, yet has noticed no falling off. Others put on the leaves after the first plowing, when the plants are well up.

"On a Run-down Farm, and no Manure, will leaf mould help me any?"—"D. S. H.," Ossipee, N. H.—Yes. Get all you can, and compost it, if only for a week, with lime, using a bushel of slaked lime to a cart-load of mould, or mix it with fresh manure of any sort—one-third manure to two-thirds mould. It will heat enough to be of great service in ten days. If there is absolutely no time to wait, apply the mould to the land, and lime it well at the same time.

Raising Poultry for Market.—"E. F. V." Arch St., asks: "Where can I find some one that is engaged in raising poultry for the market? I intend going into the business."—Poultry-raising is a branch of business usually followed on the farm, and you can hardly go amiss of good poultry men in any farming district. It is seldom followed as a distinct business, and whenever attempted has generally failed, mainly, we think, through too close crowding. A thousand hens, turkeys, ducks and geese ought to have at least twenty acres of land, partly covered with wood and brush. Ducks, geese, and turkeys are very extensively raised about Narragansett Bay, in R. I., and it would pay a man who wishes to raise water fowl to visit Tiverton and Little Compton in that State to learn how it is done.

How Much Lime to the Acre?—"H. G. L.," of Maryland, writes: "We find by analysis that lime is required only in a *very* limited degree; and I am inclined to think the excessive use of lime in some sections of the country a waste of time, money, and labor, and also that the liberal use of superphosphate of lime, potash, ammonia, and gypsum, would make nearly if not quite unnecessary the use of lime."—The value of quicklime as a manure is not merely in supplying an actual constituent of the plant. If it was, a few pounds per acre would be sufficient. Its value consists in changing the chemical and physical character of the soil—in developing the latent mineral plant-food, and in decomposing and rendering available organic matter, and in forming compounds which attract ammonia from the atmosphere. It may be that we can purchase this ammonia and other plant-food cheaper than we can get it by using lime. It depends a good deal on the nature and composition of the soil. At present, this question cannot be definitely settled, except by actual trial on the farm. In England, where lime was formerly used in large quantities, the tendency for some time has been towards a more liberal and direct use of ammonia and phosphates in manures, rather than to develop them out of the soil by the use of lime. A judicious combination of the two systems will probably be found the most profitable.

How Does Water Get into Draining Tiles?—Many correspondents ask this question, and it seems to strike every one as the first mystery of tile draining. The answer is a very short one. *It leaks in.* The soil outside of the pipe is saturated with water, which is pressing downward, seeking an outlet. The open joint between the ends of two draining tiles is a crack through which it can find its way. Once inside the tiles, it runs off and leaves room for more to follow.

N. Y. State Fair.—The next Fair of the N. Y. State Agricultural Society will be held at Elmira. The officers announce that "The books of entry for premiums will be closed three weeks before the opening of the Fair." This means we do not doubt exactly what it says, and it is important that all intending to exhibit should remember it. Entries may be made up to that time by letter or personally, at the rooms of the Society, Albany. Corresponding Secretary, Thos. L. Harrison.

Hallett's Pedigree Wheat.—A gentleman at Wilkesbarre, Pa., asks what became of the wheat distributed from the *Agriculturist* office in 1861? It does not seem to have proved as valuable as we expected. The truth is, that few farmers have the time or taste to experiment with a small package of wheat. It is generally sown in the garden, and the birds eat it, or it gets hoed up, or accidents of one kind or other befall it. But there are also other reasons why Hallett's Pedigree Wheat has not proved more useful. It is a variety that has been carefully "bred" until it is adapted to produce a very large crop on very rich land. If it is true that our wheat crops are deteriorating, the trouble is not so much in the want of better varieties as in the want of better tillage and manuring. There *are* good farmers who have, by underdraining and good management, brought their land to a high state of fertility, and on such farms improved varieties of grain are needed. But such men have more faith in good culture and manure than in new varieties of seed, while those who are disposed to try improved varieties of seed are frequently indisposed to use the means necessary to improve and enrich their land, without which such varieties are useless. What we should aim at is to induce *good* farmers to secure good varieties of seed, and *poor* farmers to devote all their energies first to enrich the land, and not waste them in searching for a variety of grain that will produce a large crop of superior quality on poor land unregenerated. There is no such variety, *and there never will be!*

A New Rotation of Crops Wanted in Maryland.—"M. J. H.," Cecil Co., Md., writes: "I have one hundred and fifty acres of light clay loam,—five fields, of fifteen acres each, and the balance in pasture. My rotation has been corn, oats, wheat. Yield, sixty bushels corn per acre, oats, thirty bushels, and wheat, twenty bushels. But I wish to give up the oats, as the soil is of such a nature that they will not stand until ripe. What crop shall I substitute? Would oats, sown as we now sow them, on the corn stubble, and plowed under for wheat, be a good fertilizer, or would peas answer better?"—The peas would be the better crop, turned under when in blossom, say in June or July, and the surface afterwards kept clean and mellow until the wheat is sown. But why not try red clover, sown in August among the corn? If it does well, it would be just what you want to plow under for wheat, and if not, there would still be time to sow peas or oats in the spring. But we do not like either plan. With good land, good markets, and easy access to fertilizers, it is poor economy to plow under a crop of oats, peas, or clover, for manure. We would try to keep more stock. Why would it not do to plant beans instead of the oats after corn? They would allow the use of the horse-hoe, and they are off in good season for sowing wheat afterwards. The money obtained for them, expended in manures, would enrich the land far more than turning under a crop of oats, peas, or clover.

More Percheron Horses.—It is always gratifying to have an opportunity to examine fine imported stock when it arrives, and the more so when the importations are made in consequence of the interest in any class of stock excited by the *Agriculturist*. Two of our subscribers have just imported some fine Percheron stallions. John J. Parker, of Westchester, Pa., secured the services of a friend to select for him as fine a horse as he could find. He is entirely satisfied with the purchase—a five-year-old, dapple gray, over 17 hands high, weighing 1,630 pounds, and gentle as a kitten, named "Prince Imperial." E. W. Shippen, a farmer, of Meadville, Pa., was so much interested in Percherons, that he went to France, traveled through the Perche country, and attended the great fair at Bornay, where he bought three noble horses. One, a light bay, named "Harcourt," took the first prize at the fair; the other two are dappled grays,—one of them the winner of the third prize at the same fair. They are all young, all gentle and kind, and all used to hard work, as shown by the old harness marks. There is a great demand for large horses, for carriage and express use, and heavy teaming in the great cities, and this demand will continue or increase. At the same time, the speed, toughness, endurance, and style of the Percherons are of more value than weight simply.

Prolapsus Uteri, in Cows.—"Falling of the withers" is the term by which that protrusion of the internal organs of animals which sometimes follows parturition is known among farmers. It is a very dangerous thing, and in most cases, so far as we can learn, terminates fatally under the common modes of treatment which suggest themselves to farmers. Having quite a file of letters asking about it, and telling almost uniformly of the death of the cows, we consulted Dr. Liautard of the New York College of Vet'y Surgeons, and his instructions are to proceed as follows: First wash the parts with great care and the utmost delicacy of touch, using blood warm water (100° F.) and a soft sponge; when perfectly clean replace the protruding organ, passing it back gradually until all is returned and pushed well within. Then provide a narrow stall where the cow will be obliged to stand or lie with her head lower than her hind quarters. Watch her carefully and if the *prolapsus* recurs, repeat the operation, not neglecting washing with tepid water as described. Then, punching the holes with a sharp awl, take two or three stitches in the *vulva* with silvered wire of the size of bell wire, cutting off the wire for each stitch, and uniting the ends by a twist at one side. In case silvered wire can not be got, strong silk twist may be used, each stitch being tied separately and the thread cut. An opening at the lower end big enough to insert two fingers must be left for the passage of urine. The sewing is not a very painful operation to the cow. She should, however, be supported by a surcingle passed under her hams and tied by ropes to a beam forward and above the animal. The family physician, if a humane man, would advise in such a case.

Am. Dairymen's Association.—The fourth annual report of this Society, accompanied by that of the Ohio Association, has been received from the Secretary, G. B. Weeks, of Syracuse. These reports are not only what is implied by the name, but reports of the advance of knowledge on dairy matters in this country, and as such of great value to all engaged in the dairy business. They may be had of the Secretary for the annual membership fee, $1. An octavo of 133 pages.

Not "Hog Cholera."—No doubt several diseases of the bowels, or in which the bowels are affected, pass under this name. A cure for one may not affect the others. "S. O.," of Delaware, has used copperas, and found ¼ to ½ pound, dissolved in hot water and added to a barrel of swill, an efficient and safe astringent in a case of long-continued scours accompanied by vomiting, in hogs. His brother used it with the same effect. This may be a very valuable remedy for this disease, which is not Hog Cholera.

To Prevent a Cow Kicking.—"C. R. D.," of East Hampton, Mass., writes: "Some one says: 'Tie the hind legs together.' That may do it, but I prefer to use a strap buckled tight around the cow, just forward of the hips and bag. It is impossible for any animal to kick, to do any harm, if so fixed, and they will not try it many times. I cured a very vicious one in that way some years since,—one that it would have been almost impossible to have tied around the legs."

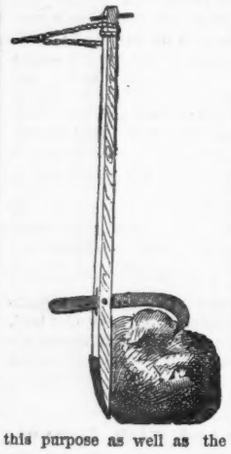
Salt and Water in Pastures.—If animals at pasture can drink whenever they wish, they will never take a great deal at a time, but if they drink only twice or three times a day, they will frequently swallow surprising quantities, and we cannot believe this is healthy. The same thing is true of salt. Animals will lick salt once or twice a day, or every day or two, if it is always within their reach, but if given salt occasionally they must not be allowed to take all they wish at once.

Secret Nests, spoken of in the April *Agriculturist*, are those which are made so as to be easily inspected and yet in which the hen is, as she believes, secure from observation. They are usually covered boxes with openings for the hens toward the wall, and with doors or lids in the rear to take out the eggs.

Name the State.—A large number of letters are received in which there is no clue to the State in which the writer lives. We frequently wish to address a person by letter, and often the reply will depend upon knowing whether the query comes from Maine or New Mexico. In the case of letters from small towns, stamps are not used for the postmark, and as the postmaster seldom writes on the name of the State, the postmark is of no use in informing us where the letter is from.

Protecting Gun Barrels from Rust.—"G. W. H." says: "After cleaning the barrel and wiping it dry, lay it across the top of a stove until it is hot enough to melt beeswax, which must be rubbed all over it. Place the barrel in a cool place, so that the wax may harden, after which polish it with a piece of flannel. This leaves a very thin coat of wax, which will protect the barrel from rust for months.

Cant-Hook for Stones.—Thos. Tear, of Lake Co., O., says he finds "a cant-hook exceedingly useful to handle large stones with. You can catch on to some corner of the stones and roll them out of their bed and upon a stone-boat with ease. It saves a great deal of hard lifting."—It is very useful for many other purposes, but to be an efficient stone lifter it must be made strong, and furnished with a ring or cross piece at the end of the handle. It is better, also, to have it iron bound at the point, to save wear. The engraving here given shows the manner of constructing a cant-hook for this purpose as well as the method of applying it.



How to Use Lime as Manure.—"K. C. F.," Eddysville, Ky. We have more faith in large doses of lime than in small. One hundred bushels per acre will often so change the character of the soil that the beneficial effects will be observed for twenty or thirty years. A convenient way to apply the lime is to plow the land and then as the lime is drawn from the kiln put it on the field in heaps 20 feet apart each way, and a bushel of lime in each heap. Then cover the heaps with a few inches of soil, and as soon as the lime is slaked, spread the whole evenly over the land with a shovel, and harrow or plow it in, and sow the crop. This gives about one hundred bushels per acre, and as none of the lime has to be thrown more than 10 feet it is easily spread. We should prefer to use the lime on a summer-fallow for wheat, as this affords more time to attend to it. But it may be applied to any crop. If your land is drained, naturally or artificially, and is well summer-fallowed and then limed as above, you may expect good wheat and good clover, and no matter how much it is "worn," when you have once got good clover you can easily make your land bring large crops.

Rotation of Crops in Virginia.—Mr. N. B. C. asks our opinion as to whether stock raising could be made profitable in his section of Virginia, where clover is the only thing to be depended on. Tobacco was formerly the principal crop, and has done much towards reducing the fertility of the land. Pea-nuts have been tried, but he thinks the land too stiff for this crop. He also asks our opinion of the following rotation: Seven fields, 20 acres each. Corn, oats, wheat, clover, wheat, clover, clover. "This would give always two fields of wheat and three fields of clover. Would the three fields of clover support 30 head of cows and the calves necessary to raise to maintain the herd?"—If the land is much run down it would not support this amount of stock. Better try half the number to start with, and increase as the fertility of the land increases. Nothing is worse than to overstock. If you understock, the clover can at any rate be used for plowing under as manure. Corn, oats, wheat, is a profitable rotation when the land is rich enough to produce large crops. But on poor land we should expect small crops and still smaller profit. If the land is "stiff," far better summer-fallow, than put in so much corn and oats. It will be better for the land and more profitable for you to have one field of wheat that produces 30 bushels per acre than two fields producing 15 bushels per acre.

What to Do with Bones when there is no Mill to Grind them.—"J. D. G.," Centre Co., Penn. Probably the best thing to be done with them is to sell them. They are worth more to the makers of animal charcoal than they are to you. There is no way of using them as manure to the best advantage without grinding them. But if you cannot either sell them or get them ground, dig them in around your grape vines or fruit trees, or break them as fine as you can with a large hammer, and make a compost of them with manure, sods, etc. The fermentation will decompose the organic matter of the bones, and the ammonia formed from it will be retained in the heap, while the bones will be softened and rendered more available as manure. To dissolve them put them in a heap; after breaking them with the hammer, and moistening them with all the water they will retain, pour on about 20 lbs. of sulphuric acid to each 100 lbs. of bones. By turning over the heap occasionally, the bones will be more or less decomposed. We have tried this plan, but never with entirely satisfactory results. We do not think the benefit generally equal to the trouble and expense. It is difficult to make a superphosphate without grinding the bones.

Potatoes on Drained Land.—Thomas Tear, of Lake Co., Ohio, says he has been underdraining and finds it very expensive work, costing him $70 per acre. This is too much. But he finds it not altogether unprofitable, for he says, "on a piece that I underdrained, I raised last year 400 bushels of potatoes per acre with ordinary culture. Previous to this I have never been able to raise more than 200 bushels per acre on undrained land. At 35 cents per bushel, the excess of the *first* crop alone would have paid all expenses — and one hundred per cent on each following crop.

Resources of the Country. — The following may be taken as the type of many letters: "Would you like to have a description of the resources of this country?" Yes; but to agree to publish it, No. We have every desire to aid in the development of every part of our common country, and especially those portions which need settlers and offer excellent inducements to them. We have published one or two communications, which have called out many others, and we now might each month nearly fill our paper with letters advocating this or that particular section. It will be seen that a journal which goes to every one of the United States and every geographical division of the globe cannot devote its space to advocating the claims of any one township. Letters giving information with regard to favorable localities for settlers are of use to us, as we often by this means place parties in correspondence with each other. We cannot advocate the claims of Virginia and ignore those of Minnesota; these older States must not take preference to the newer Territories of Idaho and Wyoming, which are pressing their claims upon us. Let our friends, North, South, East, and West, see that we cannot be the *American* Agriculturist and advocate the claims of one portion of our wide country and neglect the rest.

Disinfecting Powders and Deodorizers.—There are many recipes for disinfecting powders for use in stables and privy vaults. Carbolic acid, charcoal dust, chloride of lime, plaster, copperas, and many other materials, are frequently used for this purpose; one of the best of all disinfectants is the surface soil that lies at every man's door, made thoroughly air-dry, and sifted through a coarse sieve, to remove sticks and pebbles. It is cheap, easily obtained, and when enriched by the deodorized substances, forms an excellent manure.

Trouble with a Cistern.—"P.," Laconia, N. H., complains that he had a cistern lined with hydraulic cement, and that the water is impure from disintegrated cement. The cement was probably of poor quality. There is no trouble if good cement is used.

Salt Muck.—"E. F.," Cape May Co., N. J. There is an article on the use of salt muck in the *American Agriculturist* for August, 1868. Prof. Johnson, of New Haven, has investigated the matter, and we shall have the results in one of his forthcoming works.

Oats or Corn.—Edwin Roberts, of Jefferson Co., Wis., wishes to know the comparative value of corn and oats as feed for the horse; their comparative

effects on his health and ability to work. In order to answer these questions we have looked up all the analyses of these two grains that we can find, and after all discover no two that can be compared. Chemists who have analyzed oats, instead of taking them as they are used, grains and hulls together, took the pains to separate them, thus making their work nearly valueless to practical men. However, the value of this grain varies exceedingly according as it is light or heavy, and it would be a very complete series of analyses that would really be useful. In common experience, corn is more heating and fattening than oats, and requires more care in feeding to horses. We know that horses are capable of enduring great fatigue when fed alone upon corn in the ear; that they will bear the steady hard labor of the farm, fed with cut hay and Indian meal, and that many horses are more inclined to sweat when fed in this way than when fed dry hay and oats. We think horses used for fast work or much on the road do decidedly better on oats in warm weather, and in cold weather too, if they are liable to be driven so as to sweat much. For all moderate labor we prefer corn meal, and if the horse has not much to do we practise light feeding, using one-third linseed meal. Horses are thus kept in good order very economically, and feel well. Herbert says two quarts of *old* corn may be fed sometimes instead of three of oats, and that new corn should never be fed to a horse.

Bee Notes.—*By M. Quinby.*

As June is the swarming month, and as the extent of swarming can now be controlled, it is proper for some bee keepers at least to decide which they will have—an increase of colonies exclusively, surplus honey solely, or a moderate quantity of both. Bees that are multiplied to the utmost ought not to be expected to store up surplus honey, any more than the hen that produces the greatest possible number of chickens can furnish a great number of eggs. It is well to know that when we have the movable combs, we can take our choice, if the flowers yield honey at all. If it be decided that the bees shall devote all their energies to storing box honey, and give off no swarms, first, if not already done, find the queen and clip one wing. Place in front of the hive the yard heretofore described, to prevent her leaving; then place in *close* contact with the combs of the hive, boxes to hold at least 150 lbs. All queen cells, preparatory to swarming, must be removed once a week. The boxes should be prepared with guide comb, attached as near the entrance as practicable. If it be wished to do a little at both—increasing the stock and storing surplus honey—the management is similar. I would clip the wing of the queen in any case, and keep off queen cells until the bees are well started in the boxes, and if it has been decided to have only one swarm, it is well to have it strong. Nothing is lost by waiting until the season is well advanced, if there is only room for *all* to work in the boxes. If there are bees enough for two good colonies at the time of division, they may be expected to finish up any number of boxes half full, in ordinary seasons. When the time arrives for making two of the one stock, take the middle of the day for it, as it is the best time. Procure an empty hive, as near like the old one as possible. Move the old hive one foot to one side of the old stand, set the empty one the same distance the other side, take out half the frames, open the full hive, and transfer half the contents—combs, bees, and boxes—to the other, fill out with empty frames and boxes, close the hives, and stand at one side to see the returning bees enter. If one is getting the most, move it further away from the old stand, until the other seems more like home. If at last one has much the most, take out a comb or two, and give to the weaker one. This management will do when colonies are to be multiplied exclusively, unless they are divided about the time they would be strong enough to go into the boxes. When divided as here recommended, one part of the original colony, of course, will be without a queen. At the time of operating, if any cells containing young queens are discovered, try to see into which part the old queen goes, and remove *all* from that division; leave only one in the other to hatch, unless the supernumeraries are wanted somewhere else. Should there be no such cells, two days afterward you will find several commenced in the hive without the old queen. If we wish to multiply bees to the utmost, we must bear in mind that there is loss every hour that a colony with combs is without a laying queen. An arrangement to provide laying queens for all these occasions is a good investment. In rearing queens artificially, the best success is attained by selecting brood not more than three days from the egg, and in combs that are new. If obliged to take that which is old and tough, cut off the ends of the cells with a very sharp knife, leaving them not over one-fourth of an inch in depth, and the lower edge still less. Use not less than three combs, and put the brood in the middle one. These combs may be 6 inches square, or of full size for hives. Put in honey to last three days. When all is ready, get a quart or less of bees—young ones, that have never been out of the hive, if possible. (When most of the old ones are out at work in the middle of the day is a good time to obtain them). Shut them up for 48 hours, in a dark place, moderately cool. Let them out just at evening. On the 10th day some of the queens may hatch. Very often several cells are built. If you want to make the most of them, open the box or hive, whichever it may be, and carefully cut out all but one. One of these may be inserted into the combs instead of brood, for other nuclei—a gain of ten days in time. After the queen hatches, if fair weather, she may be expected to lay in eight or ten days, when she may be introduced.

The Use and Abuse of Barn-yards.

There is no doubt that all farm animals are benefited by exercise in the open air, and by basking in the warm sun on pleasant winter days. Therefore, every barn should have connected with it dry, pleasant, and well-sheltered yards; and the use of barn-yards ought to be confined pretty nearly to this single purpose.

When the barn-yard is made to serve as a feeding rack and as a manure cellar, the use degenerates into an abuse. Probably three-fourths of the cattle and sheep in the United States, or at least of those which are sheltered in any way, are fed mainly in open racks in the barn-yard; and on farms where corn is grown, bundles of stalks are thrown to them, and they are allowed to eat the leaves and the softer tops—the main body of the stalk, which, under proper use, is a valuable fodder, being trampled under foot and mixed with the manure. Stalks thus treated require a good part of the ensuing summer to bring them to a proper condition for application to the land. Of the hay thrown into the racks, the best part is eaten and the coarser parts wasted. It being the custom to feed in this way during the coldest and stormiest weather, cattle are obliged to stand exposed out of doors while consuming their fodder, and generally while chewing the cud. Thus, not only is fully one-half of the product of the field practically wasted, but that which is consumed is expended largely in making up for the loss of heat which the animal necessarily undergoes under such exposure. In the better farmed counties of Pennsylvania, where enormous stone barns are bursting with the produce of rich acres, and where the barn-yards are usually enclosed by high, cemented stone walls, it is not unusual to find, towards spring, a deposit five or six feet deep, over which the stock are constantly trampling, and which contains certainly more than one-half of the valuable fodder that has been wastefully thrown out for them to consume. These farmers boast of the immense quantities of manure that they manufacture and apply yearly, and certainly the results of the application are good. At the same time, the manure is very generally, even for use in the succeeding autumn, too coarse to be neatly spread over the soil; and its cost, considering the expensive material of which it is made, must reach an amount which, if it could be reduced to dollars and cents, would appall the farmers who use it. Probably even the best farms where this practice prevails would be able to winter from fifty to one hundred per cent more stock, if every thing that is raised were simply cut and carefully fed in mangers in the barn; while the resulting manure would be so much shorter, and ready for use so much earlier, that the system of farming might almost be revolutionized. If, in addition to cutting, the forage were also steamed, the result would be even better. But assuming as a basis that, by cutting alone, fifty per cent of the fodder would be saved, we see that by a slight expenditure of labor—for with the use of a horse-power cutter, the labor would be very slight—the income derived from the use of forage crops would be fully doubled, and this with no appreciable addition to the interest on capital or to the cost of labor. Furthermore, the condition of the stock, the vigor and thrift of their progeny, the quantity and richness of milk, and the quality and quantity of wool, would be greater, with a smaller expenditure of material. There are many farmers who cannot, of course, for the want of suitable buildings, and from the real or supposed inability to employ sufficient help, adopt this process of cutting food, or even of feeding under cover; but we suggest to such, that it would be an advantage to be able to do this, and that its accomplishment should be one of the objects at which they aim.

There is a widely prevalent notion that animals are rendered hardier and more healthy by exposure, by having to "rough it." This is nonsense, as will be readily acknowledged by any man who will compare the stunted animals of the colder regions of New England, whose principal shelter in winter is often the lee-side of a fodder stack, or a soft bed under a snow-bank, with the well-housed and groomed animals of any well-managed dairy farm. These latter keep in better condition, are much less subject to pneumonia, garget, and abortion, produce richer milk and finer calves, make more and better beef, and are, in all respects, nearer to the type which every farmer should desire to attain.

Butter Making.—How to Get a High Price.

A very brief and correct solution may be given to the problem, "How to get a high price." It is, make very superior butter, and consign it to very good parties in New York, or other equally good market. Everybody who makes butter wants to get a high price. The highest prices, like high prizes in a lottery, fall to very few people; but, unlike them, are attainable by many. Were the quantity of the best qualities of butter to be ten times as great as it is, the price would hardly be affected. Great care, discrimination, and the neatest and most skillful manipulation, the best salt, the best packing, and lastly, the best cows, all combined, will not always produce the *very best* butter, or that which will bring a high price. There are natural butter regions in this country, and others in which the best butter is neither an artificial nor a natural product. The best dairy women of the favored districts utterly fail upon the others, and it has been repeatedly proved that the conditions for making good butter are beyond the control of the farmers, with the knowledge we now have. Prevailing habits of dairy folks in some parts of the country capable of producing most excellent butter damage this product. *Overworking*, alluded to in the April number, is a not uncommon fault. *Poor salt* spoils much butter. There is no better salt in the world than that which may be made at Syracuse, N. Y. Professor Johnson says of it (See American Agricultural Annual, 1868): "The purest salt made in this or any country, that the writer is acquainted with, came some years ago from Syracuse, N. Y., when the ingenious processes of Dr. Goessmann were then employed. If, as we suppose, the same processes are in use now, the 'Onondaga Factory Filled Salt' must take rank second to none," etc. Nevertheless, there is a lack of uniformity in

salt bearing this brand, and it can be used only with extreme caution. Pure salt must be perfectly white, odorless, and free from bitterness; it must dissolve in cold water without leaving any sediment or making a froth or scum, and the brine should be as limpid as pure spring water, and possess no taste but that of saltness. A little dry salt laid upon paper should remain apparently dry in the ordinary living rooms of a family. The best Liverpool Salt will stand these tests, of which "Ashton's Factory Filled" has the highest fame and price, but is probably no better than other good brands. Butter ought never to be made in a hurry. Deliberation enough to have every thing just right is the salvation of many a churning. Taking the temperature of the cream by a thermometer is poohed at by many good butter makers, but it is best for most people to have no guess-work, and to see that the cream has a temperature of 62°, or a little higher, but not 65°. The heat increases during churning, and by the time the butter comes is usually high enough (between 66° and 70°) to promote the gathering of the butter; otherwise,—that is, if the butter is hard and granular,—the addition of a little warm water dashed in while churning will effect the object. Risk attends the common practice of half working butter, oversalting, and setting it aside to be thoroughly worked the next day. Parts of the butter are likely to whiten, and no amount of working will then prevent a streaky, marbled look before the butter is spoiled by being overworked. The buttermilk ought to be almost all worked out, the butter salted, and, after standing a short time, worked again. This secures a uniform salting, and though the butter will need working the next day, it will never be found streaked. Buttermilk contains some cream and casein in solution. Simple working causes the removal of these substances with the buttermilk. Washing removes all very completely, but also abstracts a notable part of the flavor. Salt aids greatly in the removal of the buttermilk, that is, water; but the most important part of the buttermilk, the casein, is chiefly left behind. Therefore, to make butter which will be of fine flavor, and will keep, it is usually necessary to wash it after working out most of the buttermilk,—the butter-maker realizing that the use of water is an undesirable necessity. After this, it may be salted, and after standing, worked. Most of the water being removed, it is re-salted if necessary, and left with only salt enough to make a strong brine with the little water that remains. There is always room for the exercise of great discretion in working just enough, in washing, and salting, and stopping. Fine butter is truly a work of consummate art.

Experiments in Feeding Cotswold-Merino Sheep.

Dr. M. Miles, Professor of Agriculture in the Mich. Agricultural College, has made some experiments in feeding sheep with clover and Timothy hay, Swede turnips, and Indian corn.

On the 2d of November, 1867, eight grade Cotswold lambs, the produce of a thoroughbred Cotswold ram and common Merino ewe, were placed in four pens, two in each pen. The sheep in all the pens were allowed all the clover-Timothy hay they would eat. It was cut into chaff, weighed out to the sheep, and any that they did not eat was taken out of the troughs, weighed, and deducted. In addition to this food, Pens 1 and 2 had sliced Swede turnips and corn, Pen 3 had nothing but corn and hay, and Pen 4, sliced Swede turnips and hay.

When the experiment commenced, (Nov. 2) the sheep were from 5½ to 6½ months old, and averaged 86 pounds each. This in itself is an interesting fact. It shows how easily we can supply any demand that may exist for good lambs or good mutton. All we have to do is to use a thoroughbred ram of some of the mutton breeds of sheep. The experiment lasted thirty weeks. The average weight of the sheep at the commencement of the experiment and at the conclusion was as follows:

	Description of food.	Average weight of Sheep Nov. 2.	Average weight of Sheep May 29.	Gain of each Sheep in 30 weeks.	Gain per week.
Pen 1.	Corn, Hay, and Roots.	87¼ lbs.	95 lbs.	7¾ lbs.	0.24
Pen 2.	Corn, Hay, and Roots.	84 "	118½ "	34½ "	1.15
Pen 3.	Corn and Hay.	86½ "	135¾ "	49¼ "	1.64
Pen 4.	Roots and Hay.	84¾ "	99¼ "	14¾ "	0.49

One of the objects of the experiment doubtless was to ascertain the feeding value of roots as compared with corn. Taking the results as they stand above, there would seem to be little advantage in feeding roots in this climate. The sheep with corn and hay alone gained half a pound a week more than those with corn, hay, and roots. The explanation of this fact is simply this. The sheep in Pen 2 were restricted to a quantity of roots and corn supposed to be equal in nutriment to the amount of corn fed to Pen 3. The result shows that the value of roots was not equal to the estimate. So far, so good. It remains to ascertain the value of roots when fed *in addition* to a full allowance of grain. If Pen 2 had received as much corn as Pen 3, and all the roots and hay they would eat in addition, we should probably have had different results. The point in feeding is, to get animals to eat and digest as much food as possible.

The sheep were weighed each week, and we can therefore compare the results at different periods. Dividing the experiment into three periods, of ten weeks each, we have the following interesting results:

Food consumed per head per week during the 1st 10 weeks.

Pens.	Roots.	Corn	Hay.	Total food cons'd.	Average weight of Sheep at com. exp't.	Weight at end of 10 wks.	Gain.	Loss.
1	13 lbs.	2 lbs.	9 lbs.	24 lbs.	87¾ lbs.	84¼ lbs.		3½
2	13¾ "	2 "	9¼ "	25 "	84¾ "	86¼ "	1½ lbs.	
3		4½ "	10¾ "	15¼ "	86½ "	95 "	8½ "	
4	25½ "		9½ "	35 "	84¾ "	80¾ "		4

2d 10 weeks.

1	19¼ lbs.	2 3 5	6¼ lbs	28 lbs.	84¼ lbs.	89¼ lbs	5 lbs.	
2	19 "	2 3-5	14½ "	36¼ "	86¾ "	105½ "	19 "	
3		6¼	16 "	22½ "	95 "	114¾ "	19¼ "	
4	36½ "		12¾ "	48½ "	80¾ "	97 "	16¼ "	

3d 10 weeks.

1	26¾ lbs.	3¾ lbs	5¾ lbs	36¼ lbs.	89¼ lbs.	95 lbs.	5¾ lbs	
2	26¾ "	3¾ "	19¾ "	49¾ "	105½ "	118½ "	13¼ "	
3		8 "	15 "	23 "	114½ "	135¾ "	21½ "	
4	47¾ "		11¾ "	48½ "	97 "	99½ "	2½ "	

During the first ten weeks, the only sheep that did well were those in Pen 3, which were allowed 2½ lbs. of corn a week extra instead of 13 lbs. of roots. They also ate a little more hay. Years ago, John Johnston gave it as his opinion that, in wintering sheep on straw and corn, or oil-cake, the sheep would eat as much or *more* straw when allowed grain than when fed on straw alone. During the first ten weeks, it is evident that, with the exception of Pen 3, the sheep scarcely ate food enough to sustain the vital functions, and consequently gained little or nothing, while some actually lost weight.

During the next ten weeks, Pen 3 was allowed more corn, and the sheep also ate more hay, and consequently gained rapidly—nearly 2 lbs. per head per week. In Pen 2 the sheep also ate more than they did during the first ten weeks, and they also gained rapidly. In Pen 1 the sheep ate little and gained little—only 1½ lbs. in twenty weeks.

During the next ten weeks we have the same general result. Pen 3 had over 1 lb. of corn to each sheep a day, and probably this was all that they could digest, as the consumption of hay fell off a little. A few roots might have aided digestion, and given a greater gain. But, as it is, the gain is large—over 2 lbs. per week.

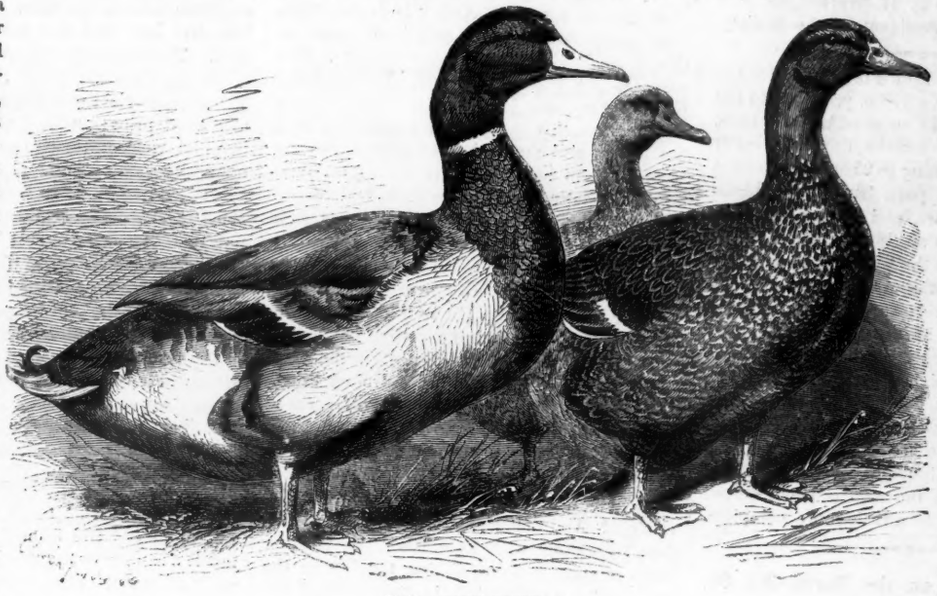
In explanation of the fact that Pen 1 did not gain as much as Pen 2, though both had the same allowance of food, Professor Miles states that one of the sheep did not do well, and actually lost 20 lbs. in weight during the experiment. Even this fact is not without interest. It shows that farmers should not only provide their fattening animals with abundance of food, but that they should also secure animals that will *eat it*, and the best way to secure this is to breed from stock that has never been starved.

Working Bulls.

As we keep our bulls in this country, there is a vast amount of power that runs to waste which would be very willingly laid out. We might severely tax the strength and endurance of any bull, not otherwise overworked, and he would be the better for it—a surer stock-getter, and a sire of finer animals; and besides, which is after all the greatest advantage, we should thus be able to keep bulls until they are really aged. We need hardly argue the question, if a reasonable amount of labor is an advantage to the bull. It is a recognized fact, that a due amount of exercise is essential to the highest wellbeing of all animals, and especially those used for breeding. If this exercise be taken in hard labor, provided it be not excessive, the experience of thousands of horse owners, and of many bull owners, in this and other lands, shows it to be entirely beneficial. The farmer, then, is doubly the gainer. He has the labor of the animal, and the bull is better for it. Few farmers keep more than one bull, and hence it is that they are not more in the habit of working them. A bull may be worked alone with a suitable harness in a cart or wagon, and before the plow, harrow, or stone-boat. He is deliberate in his movements, but powerful, and a single bull will often do as much plowing as a pair of cattle. We have seen a bull turn a 12-inch furrow eight inches deep in sod with perfect ease, and walk as quickly as a "smart" pair of oxen. He must be put early in training, taught to be guided by lines attached to the nose ring, and put early at such labor as he can do. We do not place the bull or any of his kindred high in the scale of intelligence, but very high in a scale of animals with which habit becomes second nature. Cattle are not very easily taught, but when taught, may be relied upon. Bulls are usually dangerous, because so little exercised, and never fairly subjugated. To *sub-jugate* a bull, he must emphatically be brought *under the yoke*. There is a great difference in the disposition of bulls, and while we advise no one under any circumstances to trust a bull beyond immediate control, we fully believe that nine-tenths of the young bulls in the country, if put to work, would be docile and useful, and might be kept for ten or fifteen years, greatly to the improvement of our stock. The animals in the engraving on our cover are from a photograph of a pair of twins of Mr. J. P. Swain's high-blooded Jerseys, broken and driven with reins by his son. They are two-year-olds, very docile, and so near alike that few can tell them apart.

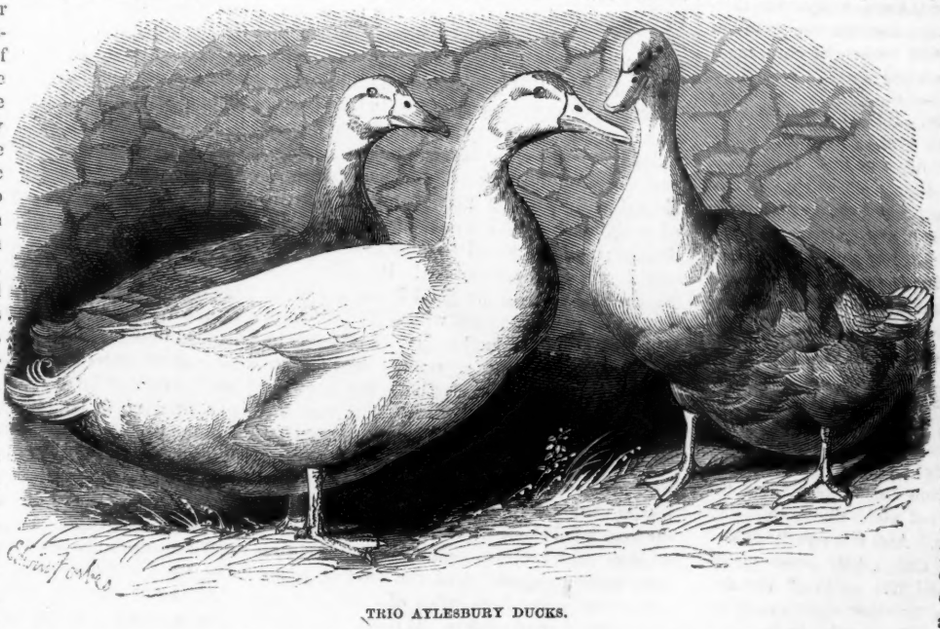
Ducks as Profitable Poultry.

If farmers or others are situated so as to be able to give ducks proper attention, even our common mongrel varieties may be made the source of great profit. Next to the pigs, there are no animals on the farm which will dispose more rapidly of a quantity of feed, or show by rapid growth that it is better digested. In fact, we presume that were weights carefully taken, it might be shown that ducks would convert a given quantity of grain and grass into meat in a shorter time than even pigs, and very likely they would beat the swine, both in time and quantity of meat. We should be glad to record some careful experiments bearing upon this point. In selecting varieties for profit in eggs and flesh, *two* breeds present themselves which are decidedly superior to all others, and between which there is little choice. These are the Rouen and the Aylesbury. Both are of the largest size, and both good layers, setters, and mothers, though the Aylesbury is claimed to be less awkward and clumsy. This claim, we think, is founded more upon the fact that it ordinarily weighs a little less, than upon any positive graces. There is a well-founded claim also in favor of the Aylesburys, that they are earlier and longer layers. This is disputed by some of the champions of the Rouens, and there is probably really much less difference between the choice specimens of the two breeds than between different birds in the same duck yard.



TRIO ROUEN DUCKS.

The Wild Mallard (*Anas bochas*), is probably familiar to almost all of our readers, either in its wild state, or in the market. This fine bird is regarded as the parent of all the varieties of the common duck. The plumage of the Aylesbury is perfectly white, while the colors of the Rouen correspond in both ducks and drakes with those of the Mallard. These colors, it may be noticed, are the most usual among our common ducks, from which the Rouens apparently differ chiefly in size; they are, however, a distinct breed, the more subtle characteristics of which must be closely adhered to in successful breeding. One of their most useful peculiarities is, that the ducks approach the drakes in size more nearly than in any other variety. The general form of the Rouens is long, and deep, and broad. They are broad backed and broad breasted. The legs are short, the thighs thick, and set wide apart. The skin of the abdomen is loose, and often hangs in a fold, like a boat's keel; and it is probably this lack of support from the skin that causes the tendency in over fat birds to become "down behind," that is, to have the abdomen hang down, and drag upon the ground. The bill of the drake is long, (the longer, the better), broad, rather wider at the tip than at the base, and nearly straight from the crown of the head to the tip; it is greenish yellow, without other color except the black "bean" at the tip. The head is long, fine, and green; the eye, dark hazel. The neck is long and slender, green, like the head, and having a clear, narrow ring of white nearly encircling the neck, from the throat backward. The legs and feet are orange colored, with a tinge of brown.—The duck's bill is brownish orange, with a dark blotch on the upper part. There are two pale brown stripes from the sides of the bill, past the eye, and a distinct "ribbon mark" of purple, edged with white, on the wings. The plumage, is generally distinctly pencilled—rich dark brown upon a grayish brown ground; on the back and tail coverts, the colors shade into light brown, marked with greenish brown. The legs are orange, or brownish orange. The general form of the Aylesburys is similar to the Rouens, but more delicate, especially about the heads and necks. The plumage is pure white throughout—the snowier, the better. The bill is long, broad, straight from the top of the head to the tip of the bill of a delicate flesh color, free from spots of any kind. The legs are bright orange.



TRIO AYLESBURY DUCKS.

Ducks begin to lay in winter or spring, as soon as the weather moderates, and, if well fed and housed, they rarely fail to lay an egg a day, until near the end of their season, for two or three months, or even longer. Duck eggs must be carefully handled, or they will not hatch; and though ducks are careful and good setters, they are not so easily managed as mothers as are hens; hence it is usually best to set the eggs under hens. The young should be kept in a close, dry pen, with a dish of water not large enough for them to wet themselves in at first, for which a tub or trough is afterwards substituted. They eat any coarse meal wet up; crushed oats and barley are excellent. They need some green food, and are benefited by fresh meat in small quantities. As soon as they are fledged, the hen may be removed, and the ducks given their liberty; when in marshes or ponds, they will pick up nearly as much food as they need, unless they are forced for early marketing. They bring about the same price as chickens, and are usually fit for market much earlier. Duck eggs bring a good price, selling at 5 cents each when hens eggs are worth 3, and are well worth the difference. With many persons, they are a favorite article of food simply boiled, and in cookery they go much farther than hens' eggs. The slight difference in flavor is observed by few, and while that of duck eggs is esteemed by many, it is, so far as we know, disagreeable to none. The color of duck eggs varies from bright blue to white, but the smooth alabaster texture

of the shell is invariable and very peculiar.

The birds from which the above engravings were made, received prizes at the show of the N. Y. State Poultry Society in March last. The Rouens were bred and exhibited by Benjamin Haines, of Elizabeth, New Jersey, and the Aylesburys by Geo. H. Warner, of New York Mills, N. Y., President of the Society.

GRINDING AND COOKING FOOD FOR HOGS.—Mr. F. T. Fisher, of Nashville, proposes to put up a small steam-engine to grind corn for hogs, and asks how he may make the same boiler cook the meal, amounting to 25 or 30 bushels at a time. Six or eight pork barrels should be placed near the boiler, and two-thirds filled with water. Connect an India rubber hose at one end to a faucet in the boiler, and having an iron nozzle on the other end, which leads to the bottom of a barrel; turn on the steam at full head. As soon as the water boils, meal should be stirred in until the mass is very thick. Cover the barrel, and leave it for some hours to cook. When cold, cut out the mush with a spade. While the first barrel is receiving its meal, the water in the second is being cooked, and so on. By continuing to discharge steam into the barrel while the meal is being stirred in, the cooking will be a little more complete.

Walks and Talks on the Farm—No. 66.

The brethren in Ohio seem to be somewhat excited about my remarks in regard to the corn crop which received the prize for 1868. One of the most influential members of the Ohio State Board of Agriculture writes to the *Agriculturist* as follows: "In your last number the statement is made that Ohio paid a premium on a crop of corn for 1868 that produced only fifty-one bushels per acre. I cannot imagine how the writer of Walks and Talks was so misinformed. The truth of the case is, that the thirteen and a half acres upon which the premium was paid produced 1,213 bushels of corn, making about *ninety bushels* per acre."

This is all very true. But what I said was, that the field of a little over thirteen and a half acres produced only "fifty-one bushels of *shelled* corn per acre." Mr. Barras' statement was that the field of thirteen acres and eighty-eight rods produced 1,213 *baskets* of corn, that is, of *ears;* and that each basket of ears gave thirty-four pounds of shelled corn; so that the thirteen and a half acres produced 41,242 pounds of corn, which, at sixty pounds per bushel, is $687\frac{22}{60}$th bushels of shelled corn, or a little less than fifty-one bushels per acre.

Mr. Barras further states, in a letter to the Country Gentleman, that he thinks five acres might have been selected from the field that would have "averaged eighty bushels shelled corn" per acre. From this it is evident that the whole field did not yield ninety bushels of *shelled* corn per acre. And it is equally evident that if the thirteen and a half acres yielded only 687 bushels, and five acres of the field yielded 400 bushels, the other eight and a half acres yielded only 287 bushels, or less than thirty-four bushels per acre. And this, mark you, as I said before, is the Premium Corn Crop of the great State of Ohio for the year of grace, 1868!

It may be considered unkind in me to take Mr. Barras' own figures, and from them show that eight and a half acres of the premium field of corn yielded only thirty-four bushels of shelled corn per acre. But my object is simply to show that, while the rich lands of the West occasionally produce large crops, yet it will generally be found that there are often a good many acres on the farm that produce only very moderate crops. And the test of good farming is not a large crop on one or two acres, but a high general average. And this is the weak point in our farming,—not only in Ohio and in this State, but throughout the country. Our averages are exceedingly low. In a national point of view, and in the present condition of our finances, this is rather an alarming fact; but to you and me, and to all others who are trying to farm better, and are willing to invest all the capital we can command in underdraining and other permanent improvements, it is encouraging rather than otherwise. If it was a fact that the land of the West (wherever that may be) would produce large crops with little labor or expense, we might well hesitate before investing largely in draining, getting out stones, and other improvements. But it is not true, and I wish every farmer in the United States understood it. There are millions of acres of very rich land at the West. But is it not a fact that on almost every farm there are parts of the fields that are poor, or wet, or weedy, or something, where the crops hardly pay for harvesting.? And that while a few acres may produce large crops with little labor, the yield on the poor spots is so small that the *loss* on the latter makes a serious hole in the profits of the former? At any rate, this is the case on my farm, and so far as my observation extends, nine-tenths of all our farming land, East, West, North and South, is in similar condition. If there is a single hundred-acre farm on this continent, or any other, that has never received any thing more than common treatment, and on which every acre produces good crops, I would like to know where it is. I am satisfied that there is, *naturally*, no such farm in the world, outside of the garden of Eden. And I am equally satisfied that there are few farms that cannot be made such by a proper system of agriculture. But so long as a man thinks he can find a farm that does not need draining, or manuring, or any particular effort to kill weeds, he will make but a sorry farmer. Such a man called on me the other day, and he was actually angry because I was cutting so many ditches. He evidently thought that if my land needed draining, his land would also have to be drained; and he seemed to think that in some way *I* courted the necessity! He believed in Nature, and thought the good Dame would be angry because I was not willing to wait until midsummer for the land to dry. I presume he thinks the reason why a common seedling apple is not as good as a Northern Spy is owing to the nurseryman. But the truth is, that Nature will help us if we will help ourselves; but if we leave all the work to her alone, she will turn against us. The time is come when this matter should be understood. American farmers work hard enough, and, taking one year with another, raise crops enough, but they do not realize enough *profit*. And the trouble is not altogether in the high price of labor, and the low price of our products. It is due in a good degree to using our labor and skill in a wrong direction. We too generally keep plowing and sowing the same old fields without any effort at improvement. I have known one of the best and oldest farmers in this neighborhood sow oats with places in the field so wet that he had to jump on to the drag and let the horses splash through the water to the dry land on the other side. Of course he lost his seed, and the labor of plowing, harrowing, and reaping. And this is the case year after year, and it will never be any better. The trouble is not in the season, but in the want of a little draining. When I bought this farm, there were ten acres of wheat sown. It yielded one hundred and fifty bushels, or fifteen bushels per acre. Five acres was on low, wet land, and five acres on dry, rolling land. The former produced not over five bushels per acre, and the latter twenty-five bushels. The average yield was fair, and the wheat sold at a good price; and if I paid nothing for labor, and worked harder, and lived more economically than a common laborer, I could manage to get along pretty well with such crops. But I can hardly believe that a kind Providence put that five acres of wet land there where I must spend *more* labor in plowing and working it than the adjoining dry land in order to reduce my profits to the lowest point at which it is possible for a man to live.

The profit from the whole field was probably $10 an acre. But how was it attained? Say

5 acres, 25 bushels per acre		$250
5 acres, 5 " "		50
		$300
5 acres, plowing, seed, harvesting, etc.	$100	
5 " " " " "	100	$200
Profit		$100

In other words, I made $150 from one five acres, and *lost* $50 from the other five. And this is a sample of thousands and tens of thousands of farms. Part of the land in a field produces a good crop, and would, if separate, afford good profits, while the other parts produce poor crops, and involve actual loss. And the land is so situated that it cannot be given away, or allowed to remain in grass or timber. It must be worked with the rest, and it reduces our profits to a minimum.

This, it may be said, is an extreme case. I think not. The wheat crop of this county, which is one of the best in the State, certainly does not average over fifteen bushels per acre, and if half the land produces twenty-five bushels, the other half must produce only five bushels. The average in Ohio for 1867 was a little over thirteen bushels, and in 1866 only four and three-quarter bushels per acre. And yet Ohio is probably one of the very best agricultural States in the Union. There is something wrong, and it is time we inquired into the matter.

I have received several letters in regard to my remarks about putting the lines round the back in plowing, and all of the writers urge me to try the "single line" system, as adopted at the West and South, and also to use left-handed plows. I have no doubt that this method is much superior to ours, and I would give one-third more for a horse so trained, than for one needing to be pulled round by the line. But the trouble is, our seasons are so short, and it is so important to get the work done rapidly, that I am glad to let the men follow the old, beaten track, rather than to run any risk of delay, even by a change for the better.

To illustrate: when I first commenced farming, I got, at John Johnston's recommendation, four new Remington steel plows. Two of my new men liked them, but the two old hands, that had been on the farm for some years, were not to be persuaded that such light, highly polished, dainty looking things could stand rough work. They might do for amateurs, but they "guessed they would not answer on this farm." And I actually had to buy some of the old, clumsy cast-iron concerns, that they had been accustomed to, before I could get my

work done. I have no doubt that one plowing with the steel plows is equal to two with the old dirt-rooters that pushed over four or five inches of soil, and required more team than the bright little steel plows did when running half as deep again. But it was no use. Those steel plows have been knocked around for five years, and were used only when we got out of points for the cast-iron ones. But slowly and steadily they worked their way to favor, and now every man on the farm wants a steel plow, and I was obliged to order a new one this spring, although we have half a dozen or more cast-iron ones. The prejudice of not a few farmers and a good many farm men is something stupendous. Even the Deacon thinks the steel plow cannot run as steadily in dry land as a cast-iron one of the same form, because the dirt slips off so smoothly from the mould-board, while in the cast-iron one the furrow-slice adheres to the mould-board, and keeps the plow in its place. There is, of course, nothing in this; but even if there was, four-fifths of all our plowing is done while the ground is moist, and a steel plow will do good work when the soil is so wet that a cast-iron one would clog. For my part, I am satisfied that the "coming plows" will be made of steel. Not only are they lighter, and stronger, easier on the team, and do better work, but the saving of points alone will soon pay the cost of the plow. A blacksmith can sharpen a steel point in a few minutes, and can give it less or more "bite," according to the nature of the ground.

Our gang plows must also be made of steel before they will really be the useful implements they are calculated to become, and no cultivator that is not made of steel should ever be used. And so of Shares' Harrow, so-called. It would be an exceedingly affective implement for covering seed on sod land, if the teeth were made of steel. And who that has ever used a good steel garden rake can doubt, that if the teeth of our ordinary harrows were made of steel, bright and sharp, they would do vastly better work? I hope some worthy American inventor will yet make his fortune out of a good steel-toothed harrow; our common harrows are not harrows at all. They are only "drags." They are the poorest and least improved implement now used.

A farmer in Iowa writes to know what is the value of Hungarian grass, to plow under when in blossom, as a manure, as compared with clover, which is not a sure crop with him. And another farmer in Illinois asks the same question in regard to timothy and red-top. None of the "grasses," such as wheat, barley, oats, Indian corn, timothy, red-top, etc., are more than half as good, except for weight, as clover, to plow under for manure. Peas would be far better. If the clover fails because the land is wet, nothing will do it any good except draining. If it fails because the land is mucky, there is no need of plowing under any kind of crop. The soil contains already an abundance of organic matter, and this is all that we gain by plowing under crops. Not a particle of mineral matter is added to the soil. Good tillage, by exposing the soil to the atmosphere, and favoring decomposition, will develop the plant-food, of which there is undoubtedly an abundance now lying dormant in the soil. Draining and good culture are all that such soils need to make them very productive. And then by stocking down with good grasses, and pasturing them half the time, their fertility may be maintained, and in fact increased. Of course, all the manure that can be made on the farm should be saved and applied. The basis of the improvement is draining and good tillage. A year's fallow, *on such land*, if thorough, will do more good than plowing under a year's growth of *any* crop. On a calcareous loam, deficient in organic matter, plowing under clover has an exceedingly beneficial effect, and the effect is obtained at least a year sooner than if the crop was made into hay and the manure obtained from it returned. But with good mowing machines, rakes, and unloading forks, that enable us to make hay at half what it formerly cost, and with the present and prospective high price of beef, butter, and cheese, it seems a "shame" to plow under good clover hay.

A subscriber to the *Agriculturist*, at Tipton, Ind., writes: "In your April Walks and Talks you mention the fact that you commenced a ditch, but for want of sufficient fall, abandoned it. What is the least fall per rod at which tile drains will work well? We have a level country, and many persons are afraid of tile on account of the fall."—An experienced English drainer says a properly laid underdrain will work well with a fall of one inch in seven hundred feet. The way I cut drains on low, level land, is to commence at the main ditch or stream, dam it up a couple of inches, and cut the drains so that a quarter of an inch or so of water will follow the ditches. This cannot be done properly without the long-handled narrow scoop, described in the Agricultural Annual for 1867, but with it a drain can be cut as smooth and true as a planed board. When the ditch is finished, take away the dam, and lay the tile; put no stones or straw on top, but shovel in the dirt, taking care that it does not get into the joints, and I will guarantee that the drain will work well. I think there can be no doubt that a drain laid in this way, with two-inch tile, twenty-five or thirty rods long, would work well; as, if the tiles are full of water at the upper end, and there is a free outlet below, there is an actual fall of two inches in the tiles themselves, supposing them to be laid on a dead level. Furthermore, I have drains laid with very little fall, that frequently discharge into a stream in which the water is a foot above the tiles, and yet the drains are perfectly effective. If the drains are three feet deep, we get in this case two feet of drainage, and the water in the other foot below is constantly changing, which prevents all injury from stagnation. The fact is, there is vastly less trouble about draining than most people imagine. It is almost impossible to lay the tiles so that they will not work, *provided* they have a free outlet or discharge into a *running* stream. Of course it is unwise not to lay the tiles with great care, but it is nevertheless a fact that, on my farm, I have had drains laid when the water in the ditches was over the tiles, and when I certainly feared the mud would stop them up, and yet, so far, every drain works well, and I see no reason to doubt that they will work just as well for all coming time. If the water is running freely through the tiles when the dirt is thrown on to them, there is no danger, so far as my experience goes, of their ever filling up. Even in quicksand I should apprehend no trouble provided the drains are sufficiently numerous to dry the land completely. If they once carry off all the water without filling up, there is no farther danger. It is the excess of water in the land when the drains are first cut that causes the trouble. When the drains once get fairly at work, there will never be so much water again, and consequently very little danger of the sand washing into the tiles.

I am going to ask Mr. Judd to come and see my farm again this summer, and I *think* he will find no wild mustard in the field that I summer-fallowed for barley. So far, the system more than comes up to my expectations, and I intend to fallow thirty acres this summer and autumn for barley. There are a good many stones in the field, and I feel satisfied they will never be got out in the ordinary course of farming. Take this spring, for instance: the season was so late, and we were necessarily in such a hurry in plowing for spring crops, that the thought of stopping to get out a stone seemed little less than madness. But fallow for barley, and then as soon as you are through sowing winter wheat, plow the fallow, and make a business of getting out every stone that the plow strikes. My barley fallow has given rise to considerable comment. One of the wealthiest farmers in the neighborhood one day asked, "What *are* you going to do with that field?" "I am fallowing it for barley." "Well," he replied, "it may pay you, but it would not pay me. *I* cannot afford to wait so long for a crop." "What would you have done with the field?" I asked. "Sowed it to wheat," he said. "Very good. Now, if I had sowed it to wheat, when should I have harvested the crop?" "Next August." "Very well; and when will the barley be ready to harvest?" "It won't pay, any way," he replied, and drove off. I wish the intelligent farmers of the country, however, would try the plan. I can think of no other system of rotation so well calculated to clean the land, and to lessen the amount of manual labor, as to allow the land to lie exposed to the ameliorating influences of the atmosphere for so long a period, without dispensing with a crop. In fact, it gives us all the advantages of a long fallow without the loss of a single crop, and that at a time when we have most leisure for working the land. There is one thing in which farmers are certainly improving. They cultivate their corn much more thoroughly than formerly. The old plan here was to cultivate it once both ways, and then hoe it. And then, in the course of a few weeks, cultivate it again, throwing the soil to the hills, and then dress it up with the hoes. And this was considered rather extra culture; it was what farmers aimed at, and they rather congratulated themselves when they could accomplish it. Now, thanks, mainly, as I believe, to the teaching of the agricultural press, the idea of a certain number, and only a certain number, of "cultivatorings" being necessary is given up, and the more energetic farmers cultivate as often as there are any weeds to kill, and many intelligent and experienced men who have tried the plan cultivate once a week or ten days, whether there are any weeds or not. This constant stirring of the land develops the plant-food in the soil, and also keeps it moist, and, especially on a rather heavy loam, adds from twenty-five to fifty per cent to the crop, while the land is in *far* better condition for the subsequent crops of barley, wheat, and clover. I believe in "clover and plaster." I believe in making rich manure, and a good deal of it. I believe in carefully saving and applying it, and also in using artificial manures; and I believe in lime and muck, and salt and ashes; but before all, and above all, and beyond all, I believe in underdraining and thorough cultivation. I have no heart to talk about scientific agricultural questions, although I read nearly all that is written on such subjects. The one thing that we most need, as farmers, is to be convinced of the importance and advantage of killing weeds and making the land mellow.

Farm Sleds for Winter and Summer.

In some parts of the country there is a constant use made of sleds in summer, and very wisely, we think, as we always advocate the employment of animal labor to save hand labor when it can be done economically. But even if one does not intend to do any sledding upon bare ground, the sled pattern here presented is worthy the attention of farmers now, because they may take the leisure and rainy days of the present and coming season to have the stuff sawed and put together before snow. The plan was sent to us by Mr. H. D. Smalley, of Stark Co., Ohio, who says it is much in use, and very popular among farmers in his vicinity.

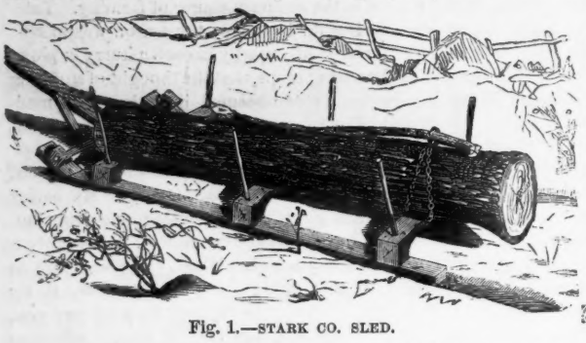


Fig. 1.—STARK CO. SLED.

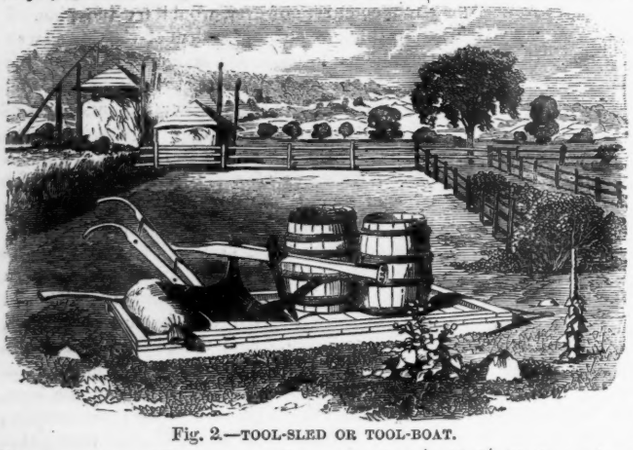


Fig. 2.—TOOL-SLED OR TOOL-BOAT.

Mr. S. writes: "It is so easily made that any farmer can make it; and I will guarantee that after one week's using it, he will not be willing to be without one on his premises. The runners are sawed out of sound hickory, the crooks coming out of the but of the log, in the same manner as stone-boat plank are sawed, except that they must have a little more crook,

Fig. 3.—BOX FOR TOOL-SLED.

say 6 inches in a length of 10 or 12 feet. Their width is $5^1|_2$ or 6 inches, and their thickness 2 or $2^1|_2$ inches; the beams are made of 6×6 oak scantling. The first beam is set 20 inches from the crook, pinned to the runners with inch pins, set diagonally and drawing a little, and wedged on the under side of the runner. The roller-gudgeons enter 3-inch blocks, bolted to the tops of the runners with two bolts each. No raves are needed. The stake holes are bored slanting through the beams, and so as to miss the inside of the runners; otherwise they will fill with dirt. Advantages:—It is so low, a man using skids 8 feet long can roll on an ordinary saw-log with a handspike, thus saving unhitching and hitching his team; it is not liable to upset when loaded; will not cut in in crossing soft places; when there is but little snow, not enough to run an ordinary sled, a team can draw a heavy log with ease; it is not so liable to break in crossing uneven places; and passes over obstructions easily. In short, its superiority is so manifest, that it needs but a day's trial to establish it."

This sled, of universal, summer and winter utility, so to speak, leads to the consideration of

Summer Sleds.—There are a multitude of uses to which a light sled can be applied throughout the year, and the additional labor imposed upon the horses is very little. We give herewith a sketch of a tool-sled, or drag, which is an improvement upon one the writer has in daily use, and not unlike one described in the *Agriculturist* for May, 1866, but lighter. It is eight feet long, and three wide. The runners are two four by four scantling, or other pieces of hard wood, though red cedar will do. There is a floor of inch boards, and $1^1|_2 \times 3$-inch raves nailed upon these. One-inch oak pins are used to fasten the parts together, and three or four carriage bolts on each side are an additional security. These should pass through runners, boards, and raves, the heads being well sunk in the runners, and the nuts on the top provided with washers. The sled is drawn by hitching the team to a clevis in the front, or better to a sort of bale—an iron rod, bent at a right angle, and attached to both runners. We transport upon such a sled, or "boat," plows and harrows, potatoes for planting, fertilizers in bags or barrels, and any similar things. It is provided with four stakes, like a cart. Fig. 3 shows a box which fits upon the top of the rave, and is held in place by strong cleats, which enter the stake staples. This addition converts the tool-sled into a very different affair. It is a handy thing with which to gather up the stones in a mowing lot, to haul compost or manure upon plowed ground, for manuring in the hill or drill, and to distribute drain tiles along by the drains. Without the box, and simply with the poles, it may be used for moving fencing stuff, bean poles, bog hay, brush, and many other bulky things. This tool-boat will be found especially useful when men and horses are to be gone all day, to carry food and fodder, besides the tools, and almost any farmer having one will make one or two of different sizes.

Doors for Manure Cellars.

It is very important, when manure is received in a cellar directly under the animals, especially if there are openings in the floor through which much air could pass, that the door by which the cellar is shut off from the outer air should be so tight as not to admit strong cold drafts. The accompanying engravings show how a cart door to a cellar may be made tight, and yet so light as to be easily managed by one person. Perpendicular swinging doors, owing to their liability to sag when made of large size, are objectionable. In fig. 1 the door is represented as closed. It is made in two parts: *a*, the upper section, is hung on strong hinges from the top of the frame, and swings inwards, where it may be fastened in a horizontal position, as shown in fig. 2, which represents a section of the same door. The part *b* is a movable low door, resting upon a chestnut sill, and fitting tightly into rabbets in the side post. The top of *b* and the bottom of *a* are so rabbeted as to form a tight joint, and to have their surfaces flush with each other. When *a* is shut down against b, it is fastened in its place by a wooden button, *c*. Both halves of the door *a* and *b* are secured to the jambs of the door with hooks.

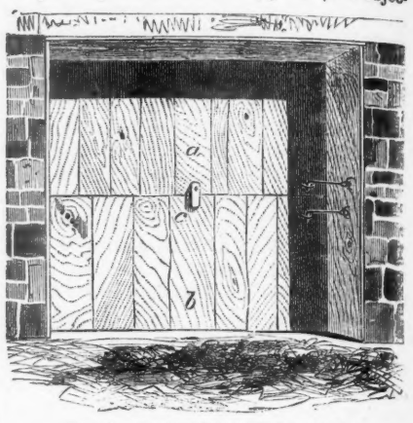


Fig. 1.—DOOR TO MANURE CELLAR.

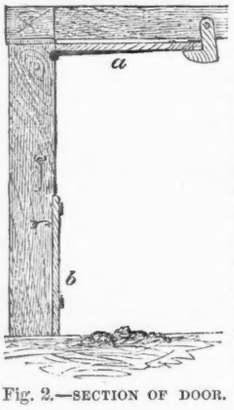
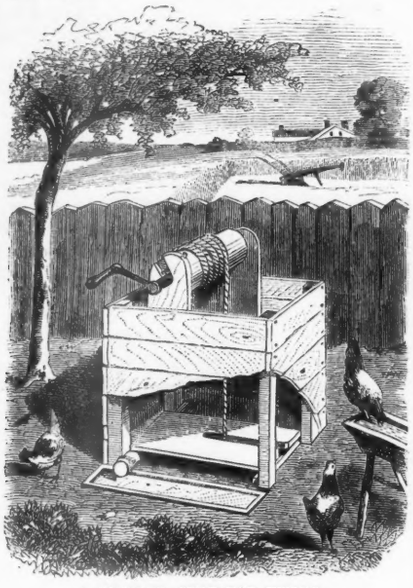


Fig. 2.—SECTION OF DOOR.

Covers for Wells.

The water of our wells is often contaminated by dead animals, such as mice, moles, toads, etc., falling into it. This may be, in a great measure, if not totally, prevented, by a good curb set upon a stone or cement base. A more constant source of impurity, though not so disagreeable, is the falling in of leaves and such things, together with the dust and small particles of grass, wood, seeds, and insects. This can only be prevented by a cover, which, if it must be lifted by the hand, gives so much additional trouble to the persons who draw the water that they are apt to fasten it open, and it is almost never closed. To obviate this trouble several plans have been proposed. One of the simplest is that herewith figured. It is a slight modification of a plan sent to the *American Agriculturist* by Mr. V. Devinny, of Denver, Colorado Territory, and applicable to any well from which water is drawn by the bucket. It consists of a light cover made of matched half or three-quarter inch stuff, fastened to a four by four cross-piece at the back part of the well-curb. This cross-piece has a gudgeon of oak or iron in one end, and the other end is cylindrical and grooved to run in a bearing upon the sill of the well-curb, and extending through it, (some of the boards of which are removed in

the engraving). Outside the curb, and attached by a leathern strap or bit of chain to the end of the cross-piece, as shown, is a treadle, which works up and down in a box. One end of this rests upon a pin or cleat in the end of the box, or is hinged upon it. When any one wishes to draw water, he puts one foot on the treadle, and bearing his weight upon it, the cover rises, and he can raise the bucket; removing his foot, the lid falls of its own accord, provided some



A COVERED CURB FOR WELLS.

contrivance, like a lath nailed between the rear posts of the curb, prevents its passing the centre. The cover is made without the slot to receive the rope, only having a notch to "gather" it. With the slot, such a cover is perfectly applicable to wells that are worked with the old-fashioned sweep and pole.

Farmers and Their Hired Men.

Probably the difference between farming and almost all other kinds of business is more distinctly marked in the relation existing between the employer and his laborers than in any other way; and while we fully appreciate the kindly relations which grow out of the friendly companionship of isolated residence in the country, and of employment at the same work, we have been sometimes inclined to think that if a shade more, not of superiority, but of authority, were made to mark the difference between the master and the man, farming might become a more systematic and more satisfactory business. In saying this, we would by no means imply an approval of superciliousness of demeanor, of unkind treatment or manner, or of any lessening of the most friendly relations between two classes of people, who generally, except for the simple fact that one is the employer and the other the employed, stand on the same level of education and intelligence. We only mean that no work can be successful that is not systematic. No system can be carried out in which there is not one head, responsible for the working of all subordinates, and for the conforming of all parts to the requirements of the whole.

There is a great deal of humbug in the matter of the giving of orders to farm laborers. The fact exists that the farmer is an employer, and the laborer an *employé*. He is employed to do certain things, and to do them when and as he is told to. If he fails in this respect, he is, or deserves to be, dismissed from the service. He understands this perfectly well, and so does the farmer, and it is simple nonsense to convey orders in the honied phrases,—"Suppose you feed the oxen," or, "You may hoe corn awhile to-day, if you have a mind to." If it is the man's business to feed the oxen, it is the master's business to tell him to do so; and, it being perfectly well understood that the corn is to be hoed, and hoed according to orders, there is no sense in seeming to leave it to the discretion of the workman. An order to do a given piece of work is just as much an order when put in one form of words as when put in any other; and in our view, it implies a lack of good sense on the part of the laborer to suppose that he is not willing to be told in plain terms,—"To-day you will hoe the corn," or, "It is time to feed the oxen." If General Grant had replied to Sheridan's famous communication by saying, "You may push things, if you have a mind to," much of the force and formal authority of his simple "Push things!" would have been lost.

Most of our American farm hands have been American soldiers, and they have become thoroughly used to being told what they are to do in plain English; and we know from our own experience that they would still prefer, in their more peaceful occupation, to have all of their directions couched in unmistakable, though by no means discourteous, language. It may be thought that this is a small matter to write an article about, but it is not. The manner in which authority is exercised over subordinates is an infallible indication of its value and effect; and the quiet determination which induces a farmer to tell his men in a manly and straightforward way what they are to do, indicates by no means that he considers himself better than they are, but that his work is being carried on according to an established plan, and that his plan will be executed with that promptness and dispatch which are indispensable to success in any walk of life, whether in the army, in the work-shop, or on the farm. Men who are worth having will prefer to have their instructions given to them in a definite form, as instructions, and not as hints; and the most successful farmer, other things being equal, will be the one who, in this respect, adopts the course that we have indicated.

Pigeon Houses.

Pigeons are valued both as ornamental birds and as furnishing an exceedingly delicate article of food. If kept for use, or if reared purely for fancy, pigeons must be kept in rooms secure from cats, rats, weasels, etc., over the stable or some outbuilding. This gives the

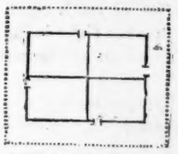
Fig. 1.—RUSTIC PIGEON HOUSE.

owner access at all times to the birds and their nests. The room is subdivided by latticework partitions into as many apartments as are desirable. When, however, persons do not want to make a business of raising pigeons, and desire to keep only one, or possibly two, orna-

Fig. 2.—LOG CABIN PIGEON HOUSE.

mental varieties, it is very well to make the houses as well as the birds contribute to the

Plan 1.—20 × 20 in.



Plan 2.—24 × 30 in.

ornamentation of the place. We give herewith some engravings of simple "pole houses," and

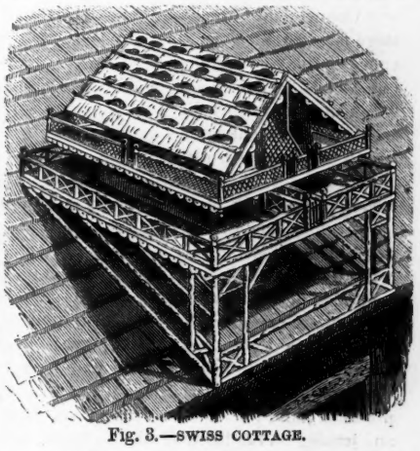
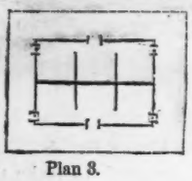


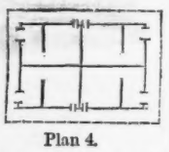
Fig. 3.—SWISS COTTAGE.

one which may appropriately be set, as exhibited, upon a roof. For convenience of examinations, pigeon houses should have the roofs keyed on so as to be lifted off. The roofs should have wide, projecting eaves and gable ends, to keep out the rain; and the houses should be fastened very securely by iron straps, shaped like the letter L inverted (⅂), screwed to the bottom of the houses, and to the side of the post. The post should be very smooth for several feet below the top, and painted, to prevent vermin getting to the pigeons. Fig. 1 and plan 1 represent a simple house, 20x20 inches, for a single pair of pigeons. This has two brooding rooms, and a vestibule or outside room connecting them. The pigeons will make a nest in one room, which is spacious, hatch a pair of young ones, and before they are old enough to take care of themselves, the hen will make another nest in the other room, leaving her mate to take care of the squabs, which, by the time the hen is broody again, will be set adrift. During the warm weather pigeons multiply rapidly, and the squabs must be provided for in some way, or brought to the table, if the accommodations are not more spacious than these we are considering. This house, as is also the Log Cabin, fig. 2, is constructed of round and half round sticks of as nearly a uniform size as possible, which, after drying with the bark on, are tacked

upon a box made or adapted to the purpose. Fig. 3, a Swiss Cottage. This is a good deal larger than fig. 1, and will accommodate as many pairs of birds as there are distinct apartments. In plan 2, the four rooms measure 12x15 inches. No vestibules are provided, but each tenement is big enough for two nests if needed. The Swiss Cottage house is more elaborate, and will require a skillful hand and patience to make it. Each story of the house



Plan 3.



Plan 4.

should be made separate. The lower one should be at least eight inches high, and the lower piazza eight inches wide. The stones upon the roof should be wired to the cross-strips. Plans 3 and 4 represent the lower and upper stories respectively; 4, 6 or 8 pairs may be accommodated, according to the internal arrangement.

Plowing with a Single Line.

A correspondent of the *Agriculturist*, formerly a Connecticut farmer, and now cultivating a large farm in Virginia, gives the following account of the method of driving horses, "from one to six," with a single line. He says: "Take a stout leather line, one inch and a half wide, and say eighteen feet long,—it needs that length to harrow,—with a buckle on one end, and a loop for the hand on the other. The 'lead bridle' should have a rein extending about a foot back of the hames, with a ring in the middle; into the ring buckle the line; take it lightly in the left hand, letting it fall on the same side of the horse, step back to the plow, and you are ready to start. A steady pull is to turn haw, a light, sudden jerk, gee; horses soon learn with a little patience and perseverance, so that they can be driven with the utmost precision; and the miserable practice of pulling and jerking on the lines, alluded to by the writer of 'Walks and Talks,' is well-nigh impossible. Besides there is the great advantage of the driver always having his right hand for other work—holding the plow, clearing his harrow, etc. This is all the driving required for a one, two, or three-horse plow, or a four or six-horse wagon team. In the latter case, the near horse of the forward pair is the 'leader,' and all the others are guided by him; but the advantage is more apparent in a three-horse plow team than anywhere else. And here let me say that, on any stiff land, three horses makes the very best team possible, and almost the only one capable of doing a good day's work, day after day; and I believe six horses and two men will break more land, and do it better, in two teams, than if divided into three, with another hand.

But to hitch up a three-horse plow team,—1st, have a *left-hand* plow, arranged with one 'triple-tree,' one 'double-tree,' and three 'single-trees.' Put the lead horse in the furrow, and hitch him as before described; put on the middle horse next, hook his traces, lead him up square or even with the other. Have a small strap pass under his jaw, from ring to ring of his bit; to this attach a long strap, bring it back to the double-tree, and fasten it loose enough to give him room to pull freely, but not so as to run around the other horse. Then take a 'push stick' about four feet long, attach one end loosely to the left hame ring of the 'lead horse,' the other to the right ring of the other's bit. Hitch the third or other horse in the same way to the middle horse, and you are ready to start. The 'leader,' walking in the furrow, easily guides the other two, and by the help of the 'push sticks' and coupling straps, he is enabled to turn them either gee or haw with ease. Left-hand plows work much better with this arrangement than right-hand, but both are used. Harrowing is done in the same way. I have dwelt thus at length on this subject, as I consider it so important, that I think the papers should make an effort to cause its general introduction in the North and West. And if you could get a few of our negroes to train your horses, it would be a good thing. I work six horses on my farm; all 'understand the line,' although but one did when I got them. This plan does not injure them for carriage horses, my best plow leader being one of the best and easiest driving buggy horses I ever used. Now, take a good-tempered, intelligent horse, and the same kind of a man, if you have one, tell him all about how it is done, set him at work with a single-horse plow, and see what progress he will make in one day; or else let him train him half an hour a day for a week, and then put in two, and then three, after your leader is trained. When once men and horses become accustomed to it, you could not induce either with ordinary inducements to go back to the old plan."

Tail-boards of Wagons.

The article in the April number of the *Agriculturist* suggesting the use of a chain, permanently attached at one end, instead of the usual rod to secure the tail-boards of wagons, brings us several practical and some quite impractical suggestions. A. W. Grover, of Oxford Co., Me.,

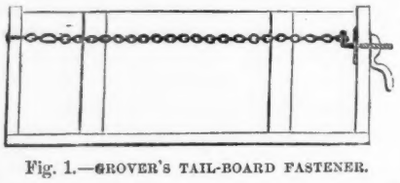


Fig. 1.—GROVER'S TAIL-BOARD FASTENER.

sends a genuine improvement upon the chain fastening by suggesting that, "Instead of having the screw bolt permanently attached to the chain, we make a hook on the bolt opposite the nut, so that when it is in place, a link of the chain may be dropped over it, and the whole then drawn snug by the nut. This avoids the necessity of taking off the crank nut." The arrangement is shown in fig. 1. The next suggestion comes from Harry H. Negley, of Alleghany Co., Pa., and is the substitution of a rod

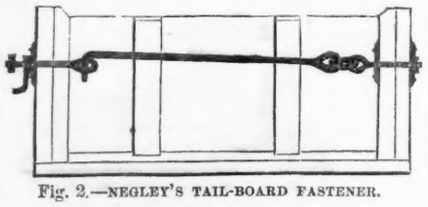


Fig. 2.—NEGLEY'S TAIL-BOARD FASTENER.

attached by a link and bolt permanently to one side, and having a hook at the other end, which fits into an eye attached to a screw bolt, to be drawn up by a crank nut, as in other cases. Mr. N. suggests also the use of a chain instead of the rod. The arrangement is shown in fig. 2, and it has these advantages over the other: The rod is cheaper than the chain, and the screw bolt will not have to be made square and work in a square hole, as the other will, to prevent the chain twisting. A small nut is put upon the end of the screw bolt in fig. 2, and slightly riveted, so that the crank nut cannot come off. George Smith, of True Co., Ohio, describes and sketches a plan in common use

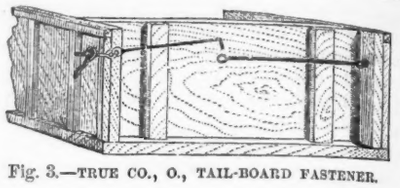


Fig. 3.—TRUE CO., O., TAIL-BOARD FASTENER.

in that section. It is shown in fig. 3, and consists of two $^1/_2$ or $^5/_8$-inch iron rods attached to the sides by links, and forming a long hook and eye, which unite at the middle of the tail-board, and are drawn up tight by a screw bolt and nut, as in the other cases. This plan, it will be observed, is on the same principle as Mr. Negley's, it being quite immaterial to which end the screw bolt for tightening is attached.

Soiling Cattle.

To the average farmer of America, no system of the summer feeding of cattle offers so great advantages as pasturing on broad acres; yet there is a very large number to whom soiling (feeding in the stable throughout the entire summer) seems to afford the best means for profitably carrying on their business. There are many, also, with whom farming is only an incidental occupation, who keep two or three cows on small places adjoining their village or town residences, and whose regular avocation is in some other department of industry; these will find great advantage in adopting soiling. It is always important to keep the largest possible amount of stock on a given area. The extent to which the proportion of cattle to land may be increased is entirely dependent on the value of land, the value of the animal product, and the price of labor. The extent to which it is possible that it should be forced is sometimes astonishing. Instances are reported, in accounts of Flemish agriculture, in which seven large-sized milch cows are kept throughout the summer season on the produce of a single acre. This is enormous; but, while the allowance in the case of good land is one cow to two acres of pasture, it is easy, on land of the same quality, to keep two cows from the produce of one acre, the whole being cut and fed from the manger. The advantage of stimulating the production of our land up to this latter point is, under all suitable circumstances, very great; and many of the small farmers of the more thickly settled portions of the country would find it much to their advantage to so organize their entire establishments, as to depend wholly upon soiling for the source of their summer feed. Those who are not familiar with the practice and results of soiling raise many objections against its adoption,—such as, that cattle, deprived of the exercise that pasturing gives them, must fall off in health, and that the production of milk will be less. It is too late in the history of agriculture for such objections to have weight, for it has been amply demonstrated by repeated experiments in this country, as well as by long-continued practice in many districts of Europe, that not only is the production of milk greater under the soiling than under the pasturing system, but that the animals are evidently more comfortable and thrifty, are less liable to disease, and very much less subject to the annoying attacks of certain insects.

To abandon entirely the system of pasturing, and to adopt soiling in its stead, involves almost a revolution of the operations of the farm. Interior fences may be dispensed with, fields thrown into better shape, weedy headlands and the frequent turning of plow teams avoided, and produce obtained more cheaply and much more certainly. The amount of manure produced is enormously increased, and its quality is very much improved, enabling the farmer to raise more grain and roots for feeding and for sale. But, at the same time, more labor is required, and also greater system in the management of the operations of the establishment.

The increased amount of labor is due, not so much directly to the necessity for raising soiling crops, and for cutting them, and feeding them out, as to the requirements of the larger area of land devoted to other crops, and the larger amount of its produce. In all cases where it is possible to procure and to feed an additional number of men, any system that will allow of their profitable employment must be advantageous. The labor chargeable directly to soiling, which may be set down as the constant work of one man, and the occasional work of a team for every twenty cows, is more than paid for by the increased production of manure alone, to say nothing of the important advantages of a larger yield of milk, and the better condition of the herd; while, of course, the work expended in cultivating more and richer acres, devoted to the raising of crops for market, or for winter feeding, cannot fail to be profitable.

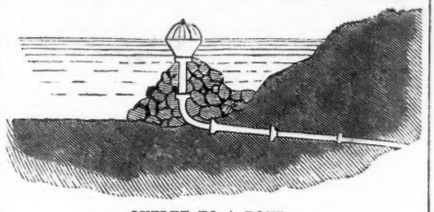
It would be impossible, within the limits of a single article, to discuss in full the manner in which soiling should be carried on. It involves many items, any one of which requires more than passing notice; and it will be sufficient to say here that we are convinced, both from our own experience and that of others, that a farm of fifty acres of such land as is considered in New England to be of first quality, (land which, with good manure, good care, and a good season, will produce seventy-five bushels of shelled corn per acre) may be made to produce the entire summer and winter food, grain and hay included, of fifty amply fed cows. Not that any land could be made to do this during this year or the next, but that in a comparatively few years, by forcing production to the highest point, the consumption of all produce on the farm, frequent plowing and cultivation, and the best management, it might be raised to such a state of fertility, that it would do it. This would imply the devotion of twenty-five acres to the production of summer forage, and twenty-five more to the production of hay, grain, cornstalks, and large crops of roots for winter feeding; and it would require all the land to be in sufficiently good condition to produce four tons of hay per acre in two cuttings, which, although an unusual, in fact an almost unknown yield in this country, is by no means impossible.

Outlets for Duck Ponds.

It is often desirable, where a small pond receives occasional floods of drainage water, to carry away the excess through an underdrain. Indeed, unless the pond is part of a brook that it is worth while to preserve, it is always best to remove its overflow under the surface, in order to avoid the unpleasant gully that usually follows the neglect of this precaution.

The plan shown in the engraving is for the removal of overflow water through a standing pipe in the middle of the pond, or at least some distance back from its edges. This pipe may be made of wood or brick, or, still better, of large drain pipes, standing on end. The mouth of the pipe should reach exactly the desired level of the pond, at ordinary stages of water, and its summit should be covered with a dome of network, which may be made of galvanized iron, or copper wire, or even a cap of perforated boards will answer to prevent the entrance of sticks, leaves, and other rubbish, that might obstruct the drain. The bottom of the standing pipe should terminate in a curved pipe or trough, leading directly to the underdrain; and all of the joints below the surface of the water should be secured with hydraulic cement, or, what is quite as well for those under ground, with a covering of puddled clay. A sectional drawing of the pond is given, showing how the pipe and drain are constructed.

This plan offers the best means for admitting accumulated surface water into underdrains. The depth of water in the pond should be sufficient to quiet the flow received from higher ground, and thus cause a deposit of its silty contents, which it might be injurious to admit into the drain; and it will be

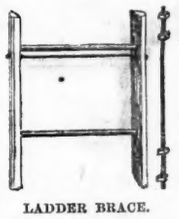


OUTLET TO A POND.

a good plan to supply the standing pipe with a gated opening, near the bottom of the pond, by which, in summer, the accumulated water may be drawn off, so that the silt can be cleared out, giving the pond its full capacity for another season's use. Care should be taken, in this case, to prevent the entrance into the pipe of the mud at the bottom of the pond.

How to Make a Ladder.

In the January number we gave an article on ladders, and this elicited from "J. F." the description of his way of making them, which, though it requires some little blacksmith work, is in some particulars superior to the way before described. He writes: "I take a young chestnut,—other wood may answer, but I prefer the chestnut. When dry it is stiff, and light, too. For a thirty-foot ladder, I take a pole six inches thick, and work it down to five inches at the but, and three at the top. Then I strike a line on the side, and lay off the holes twelve inches apart for the rounds, and bore them. This makes the step twelve inches, which is high enough for carrying any thing up or down the ladder. Then strike another line on the next side, and with a saw rip the pole in two, and a little dressing up will make it ready for the rounds. I take for rounds good white oak wood; split and shave them out eight-sided, a little heavier than they are wanted for the holes, so as to form a shoulder at each end. I prefer them eight-sided to round, as one is not so apt to slip on them. Then I have three half-inch iron rods made, one for the middle, and one for each end, longer than the width of the ladder, with threads cut for two nuts at each end, one to go on the inside, the other on the outside of the ladder poles; these can be screwed up just as tight as is necessary, and you have a permanent ladder, without any broad or flat rounds."



LADDER BRACE.

Gypsum or Plaster as Manure.

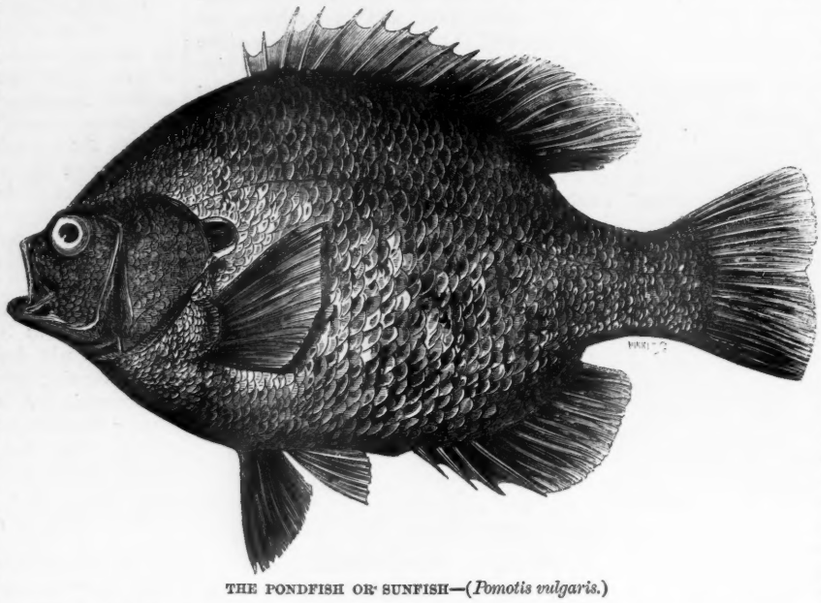
A young farmer at Hastings, Mich., asks us to tell him in what way plaster benefits crops, its chemical effects, etc. He must excuse us. It is one of the most difficult questions in agricultural chemistry. The general idea is that the plaster attracts ammonia from the atmosphere. But this explanation does not meet all the facts of the case. Plaster has a more marked effect on clover and peas than on any other crop, and yet ammonia, when applied to these crops, has far less effect than it has on wheat, while plaster often fails to benefit wheat. Besides, it is doubtful whether plaster, in a dry or moist state, has such an attraction for ammonia as is usually ascribed to it. In *solution*, it will decompose carbonate of ammonia, forming carbonate of lime and sulphate of ammonia, but in the dry or merely moist state, it does not have this effect; or at least we have never been able to ascertain the fact, while it is well known that when carbonate of lime and sulphate of ammonia are mixed together in the moist state, carbonate of ammonia is given off. And, in fact, we once mixed some wet guano with ordinary plaster, and it drove off some of the ammonia. This effect was due, of course, to the carbonate of lime in the plaster; but it at any rate shows that plaster has not a very powerful attraction for carbonate of ammonia, or it would not have escaped from the mixture. But whether we can or cannot explain *why* plaster acts beneficially on some plants, the *fact* is well established. On nearly all dry, upland soils, it generally causes an increased growth of clover, more especially of the stalk. In our experience, too, it increases the growth of peas, or at least of the vines. It also frequently increases the growth of corn, especially of the stalks. And occasionally it acts very beneficially on potatoes. On low or wet land it is seldom of any use. But on dry upland, it is sometimes useful on *all* plants, and nearly always on those we have named. Mr. Geddes informs us that Onondago Co. farmers frequently sow plaster on barley with very good effect. Personally, we have not tried it on this crop, but propose to do so.

In regard to the time and manner of sowing, the practice is different in different sections. On clover it is usually sown early in the spring, although many farmers think it better to wait until the plants are a few inches high, contending that the effect of the plaster is on the leaves, rather than on the roots. On corn and potatoes it is usual to scatter about a teaspoonful on the plants in the hill before the first hoeing. But since the general introduction of plaster sowing machines, the plaster is sown broadcast on the fields, either before the corn is planted, or after it is up. The quantity sown varies from one bushel (90 lbs.) to three or four bushels per acre. When corn is planted three and a half feet apart, a teaspoonful on each hill would give about 200 lbs. per acre.

As to whether plaster is more beneficial on sandy than on clayey land, and whether it ever proves *injurious*, we never heard of its doing any harm on any soil, except that it sometimes produces rust in wheat. On *dry*, clay land, it is often as beneficial as on sandy soil.

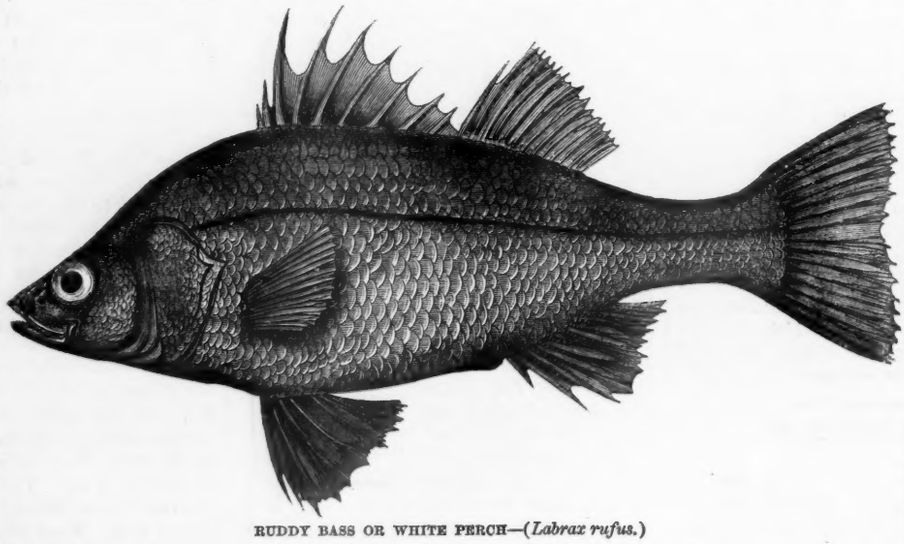
The Pond-fish and Ruddy Bass.

The beautiful Pond-fish is so common that almost every country boy knows it as an old, familiar friend. Who has not thrown crumbs to the "Sunfish" or "Pumpkin seeds," from the bridge or bank, watched their graceful motions, and caught the reflections from their golden sides? Who has not taken them from the hook, pricked himself with their spiny fins, strung them on the white-birch twig, and wondered at the marvelous blending of red and olive, green and gold, on their broad, glistening sides? Our engraving, from the photograph of a specimen 8½ inches long, gives a perfect idea of the side outline; viewed from above, the fish is long and narrow. Its colors are very brilliant, greenish olive upon the back, becoming lighter upon the sides, where irregular small red and broader yellowish-brown spots occur. The opercles, or sides of the head, and gill covers, are bluish, with light spots, and on the end of the opercle near the pectoral fin is a large, soft prolongation of it of brilliant colors; it is black, edged with intense scarlet. This fish is of little value as food, because it is generally so small and bony. Yet, whatever the size, it is eaten with relish, fried and well browned. The larger specimens are frequently found in market and are much esteemed. The Pondfish abounds in all parts of the country north of the Carolinas and east of the Mississippi, probably exceeding these limits, and is one of the most attractive fish gentlemen can have in their ornamental ponds and brooks. It makes a nest in clear, shallow water, near shore, excavating the gravel 4 to 6 inches deep in the middle, for a space 2 feet in diameter. Here it lays its eggs and watches them day and night for weeks, fighting off intruders.



THE PONDFISH OR SUNFISH—(*Pomotis vulgaris.*)

THE RUDDY BASS OR WHITE PERCH.—(*Labrax rufus.*)—Under the name of White Perch two quite distinct fish are popularly known. They vary, however, considerably in size and in other points. The one, an engraving of which, about half the natural size, we present, is the larger and better fish, as it frequently exceeds 9 or 10 inches in length. The color is bluish above with a pale reddish hue extending over the sides, changing to pale orange on the belly. The head has metallic reflections, and the pectoral and ventral fins are reddish. This is a common fish in those streams and waters which communicate directly with the sea along the Atlantic coast, and where the water is brackish, and, at least occasionally, salt. It is, we believe, never found at a distance from brackish water. Though clearly a bass, its general form associates it with the perch, and hence the common name. It is taken abundantly in the vicinity of New York and found in the markets during the winter and spring, and is esteemed as a pan fish.



RUDDY BASS OR WHITE PERCH—(*Labrax rufus.*)

Green Fodder for Dry Weather.

On a large number of farms which have connected with them mountain lands, outlying pastures, or any fields to which labor cannot be profitably applied, the only economical way to make use of a very large amount of valuable food is to feed it off by pasturing animals; but unless the amount of pasture land is so great in proportion to the number of animals to be kept, that, during the season of luxuriant growth, more food is produced than can be consumed, it will always be profitable to raise a greater or less breadth of some succulent green crop, with which to eke out the precarious subsistence afforded by parched pasture fields.

Throughout the whole region where Indian corn grows, this affords the most abundant and cheapest green fodder for use during the later months of summer and the autumn. And every farmer whose pastures are liable to become pinched under the heat of the August sun should sow early in the season, and at successive intervals of two or three weeks, until the first of July, such a breadth of some large-growing variety of corn as will ensure the needed supply to keep his stock always amply fed.

On well-arranged dairy farms, where animals are pastured sufficiently near to the buildings to be driven in at night, it will be well to give a good feed of cut fodder every evening, and in some cases in the morning as well, turning out to pasture during the day. Indeed, so universal is this practice becoming in our best dairy districts, that it is hardly necessary to say a word in favor of its adoption. If Indian corn alone is depended on for this purpose, the seed should be procured from a more Southern locality, as such corn is more luxuriant in its growth of stalk and leaf than is that of any Northern region. Some good farmers in New England procure seed corn for soiling use from Missouri, and believe that the production of fodder from it is nearly twice as great as would be that of any variety of which the seed could be perfectly ripened in their locality. Sweet corn is more valuable, weight for weight, than any other, but the seed is so expensive and so uncertain in its germination, while the amount of stalk and leaf produced is less, that the profit of using it for soiling purposes is questionable. Hungarian millet and other plants seem to be excellent for soiling purposes; but they are much less known, and it is by no means safe, as yet, to recommend them as better than our native Indian corn, with the cultivation and care of which all are familiar. In the system of partial soiling, valuable assistance may also be obtained from the use of winter rye, which makes a luxuriant growth very early in the spring, long before grass is fit for feeding, and which may be cut in its early stages of growth without detriment to its production of grain; though, after the production of the seed stalk has commenced, cutting is injurious. Even after this time, however, a valuable amount of green forage will be produced for use later in the season.

THE FIRST MILK of a cow after calving is purgative, and might have a bad effect on hogs, but we should think it could not be dangerous unless fed regularly day after day. It is used as human food in Europe without evil effects

Buds out of Place.

The books tell us that one of the distinguishing characters of the root is, that it never bears buds. This is true of the great majority of roots in their normal condition, but, under certain circumstances, roots will produce buds; and not only is this the case, but they may be made to produce them with such certainty, that propagation by root cuttings is one of the most ready methods of increasing many plants. We showed not long ago that buds were readily formed upon the scales of the lily bulbs, which are only modified leaves, and in the Begonias and many other plants, a leaf proper, or a part of a leaf even, may be made to produce buds so readily, that leaf propagation is not an uncommon thing with florists. Mr. A. S. Fuller has made many experiments with these unusual methods of propagation, and has largely extended the list of those plants which may be multiplied by root cuttings, etc. He recently brought us a remarkable and interesting instance of the unusual appearance of buds in the gladiolus. Mr. F. W. Woodard had placed some bulbs of Gladiolus under the stage of his green-house. Several of the bulbs were turned upside down, so that the terminal bud, which

GLADIOLUS BULB.

naturally would have started, was removed from the light, and probably had less heat than the bottom of the bulb. The temperature being sufficient to start vegetation, and the natural growth being checked by these causes, buds appeared, and leaves developed in a very unusual place—the bottom of the bulb. The engraving given below shows the appearance of one of the bulbs, it being represented upside down, of course. The unusual growth is shown, and also the regular shoot, which at length had started and curved itself towards the light.

ROSE AND WHITE HYDRANGEA.—(*Hydrangea Japonica*, var. *rosea alba.*)

The Hydrangeas.

The well-known Hydrangea is, in the Northern States, generally kept under shelter in winter, and turned out in spring. Its enormous balls of usually pink flowers have long made it a favorite plant, but its claims to popularity are likely to be contested by more recently introduced species and varieties, a number of which have come to us from Japan. In April of last year we figured the Large-flowered Panicled Hydrangea, which produces immense flower masses, a foot and a half long. Under the names of *Hydrangea Otaska* and *H. Imperatrice Eugènie*, the French journals have recently given us engravings of some fine forms. Messrs. Olm Brothers, of Springfield, Mass., send us, under the name of Rose and White Hydrangea, *H. rosea alba*, a charming plant. We give an engraving of a flower cluster reduced in size. The centre of the cluster is occupied by small, perfect flowers, while on the circumference there is a row of larger sterile flowers, which are pure white when they first open, then become beautifully tinted with rose, and finally of a deep red. The colors are very clear and pure, and the effect remarkably fine. In the common Hydrangea the whole cluster is made up of these large, sterile flowers. We take the present plant to be a variety of what is called *Hydrangea Japonica*, which is believed to be only the normal form of the old Garden Hydrangea, which this plant is quite like in foliage and habit.

Lima Beans.

There are probably hundreds of our readers who have gardens and do not raise Lima Beans—at least our observation shows that they are not so generally cultivated as they should be. The Lima is the very perfection of beans, whether taken in its green state or ripe. Any one who has an ordinarily good soil can grow them, if he observes the precaution not to plant too early. Make hills by spading in some good compost or well-rotted manure, four feet apart each way. Set a pole firmly in the center of each. The pole need not be more than six or eight feet out of the ground. Some recommend twelve, which is a mistake. It is the disposition of climbing plants to get to the top of their support before they begin to bear, and long poles bring late crops. It has been said that good crops can be had without any poles. We have never tried this, but propose to do it this season. Put five or six beans around each pole, pressing them into the soil with the eye downward, and covering about an inch. Early in June, when the cold storms are over, is usually soon enough. When well up, thin to four plants to each pole; and when they first run, if they are disposed to wander, give them a turn about the poles. Keep the ground clean, and pinch in the longer side branches, as well as the top of the vine when it has surmounted the pole.

The Safflower, or "Saffron."

There seems to be just now a marked disposition to experiment with those plants which furnish economical products, and we have many letters asking about madder, opium, and other

SAFFLOWER.—(*Carthamus tinctorius.*)

things not used as food. While we are glad to see a desire to cultivate every product that our climate will allow of, we would caution against undertaking any untried culture without first carefully experimenting. Some one wrote us to send poppy seeds enough to plant an acre.

What an elephant would an acre of poppies be to any one, while a square rod or less would be ample for all purposes of experiment! There are many things that will grow with us which cannot be made paying crops on account of the cost of collecting them. Safflower is one of the plants about which inquiries are made. In this country it is improperly called saffron, which is the product of a crocus, while the safflower, or American saffron, is from the *Carthamus tinctorius*, a plant related to the Thistles. The plant is a native of the East, and is more or less cultivated in our gardens. It is an annual, growing from six inches to a foot or more high, and bears numerous heads of orange-colored flowers of the shape shown in the engraving. The leaves, as well as the scales of the involucre which surrounds the head of florets, have small, spiny teeth. The valuable portion is the small flowers or florets, which are plucked when in full bloom. In the East Indies, where the principal commercial supply is grown, the flowers are pressed into small cakes; the small quantity produced in this country is dried loose. More or less saffron is used in domestic medicine, and is probably as harmless as any of the many things given as warm drinks. Its virtues depend largely upon the amount of warm water given with it. It is used to adulterate the true saffron, which is an expensive drug, to make rouge and "pink saucers," and as a dye. It gives a brilliant red to silks, which is not a fast color. In Europe, the plant is frequently grown as an ornament in gardens. As with most of the oriental commercial products, it is difficult to find any details of the cultivation of safflower, or statistics with regard to its yield, etc. Those who wish to experiment with it should sow the seeds early this month; a foot apart would probably be a proper distance, and the rows far enough apart to allow of the necessary cultivation and gathering the flowers.

More Mole Traps.

The number of washing-machines and cooking-stoves patented each year indicates that perfection in these articles is not yet attained. We judge that this must be the case with mole traps, as each year brings us several new contrivances for destroying the burrowing pests. If mortality to the moles were at all in proportion to the ingenuity expended in exterminating them, the race would have been extinct long ago. We imagine that one thing is needed which the inventors cannot supply—care and

FIG. 1.—EX-SQUIRE'S MOLE TRAP.

persistence in using the traps wherever a mole-track is noticed. "Ex-squire," who dates from the odd place "Six Acres not Enough," in New Jersey, where "Ten Acres Enough" was discovered, sends his "con-traption," of which he says: "'Tis death on the moles, and not being patented, is public property. It is made of strips of one-inch boards; there are two pieces like *a* joined by two pieces, *c*, *c*, nailed on; *b* is hinged to one *c*; *d*, over which the cord runs, is nailed to *e*; *e* is on a pivot at *x*. The spikes are pieces of wire, ground to a blunt point. I make *c c* about eight inches long." Figure 1 shows an end view of the trap placed over a run.

Mr. Geo. Foland, Hagerstown, Md., (?) gives a drawing of his trap, which he thinks more simple and effective than any we have heretofore published. He says: "It is only a common dead fall, which any boy knows how to make. A board ten or twelve inches wide, and from four to six feet long, with a stone upon it for a weight, is used with the common trip trigger. Take a block nine inches long by three

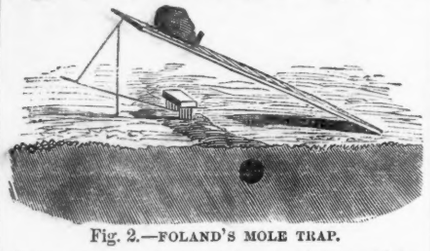


FIG. 2.—FOLAND'S MOLE TRAP.

inches wide, and one and a half inch thick; strike a circle on each end, of two and a half inches diameter, and put in each circle four sharp nails, extending through the block about four inches. Place your foot upon the trail, and press it tightly down, and put the block upon the trail, with the nails on each side of the part pressed down. The point of the trigger must bear upon the part thus pressed down, as represented in the engraving. As the mole opens his trail, the trigger is raised, which drops the weight upon the block, and drives home the nails. This trap never fails to catch."

Notes from "The Pines."

Mr. Walks and Talks has given his experience in the paper, and why should not I? He has a large farm to walk and talk over, and I propose to do the same with my large garden. Now, it is very jolly to go upon a new place and find it all just as you would not have it. A place that is finished is a terrible thing to have—but one that has been begun, and has everything wrong from beginning to end is a perfect treasure. I have not time to make a map of the place as it is, but you may imagine a long and narrow piece fronting on the river, and going back over hill and dale indefinitely, and including about ten acres. "Why do I call it 'The Pines'?" "Because I could not help it." You see, that there are on the river bank three pine trees, our beautiful native White Pine, the Weymouth Pine of England, which for hight and spread of limbs are rarely to be equaled; and out of respect to these grand old monarchs, the place is called "The Pines." Beyond this natural growth the trees are all wrong, as is every thing else. Two Balsam Firs, the worst of our evergreens, flank the front door, and shrubs put in a straight line with them give a very cheerful idea of a funeral. There is a row of cherry trees near the front line fence, which ought to bear fruit, but don't; and all the grounds around the house which will be lawn, are occupied by pear trees, currant bushes, quince trees, and as near the road as possible is a bed of asparagus, and another of rhubarb! I can't tell you of the odd things that are where they ought not to be, but some time I will make a plan and show how they are, and how I have changed them, as the suggestions will be useful to hundreds of readers. Now, next to making a place useful to one's self, it is important to make it useful to others. I intend, in the "Notes from 'The Pines,'" to record my failures as well as my successes, and to make them as talky, if not as "walky," as Professor Harris does in his generally appreciated Walks and Talks. My great satisfaction in the whole is, that we have what the *Agriculturist* has long wanted—a big garden. The different editors have four large farms, and I supplement them with a large garden, in which there will be ample room to test all the many things our friends send us every year. Already Saul, of Washington, D.C., Lum, of Sandusky, O., Carpenter, of Rye, N. Y., Fuller, of Woodside, N. J., Geo. Such, of South Amboy, N. J., Col. Wilder, of Mass., and J. J. A. Gregory, of the same State, Bresee, of potato fame, Conover, who will be famous in potatoes, Mr. Vanderveer, whose seedling is working its way into popularity, and many others whom we cannot name here, have sent us things to be tested. I intend to make "The Pines" a trial ground, as there is ample room to test every garden product. Taking possession late in April, I can only make the tillable land do its best. Many kinds of potatoes have been put in side by side in purely field culture, and some impartial and interesting results may be looked for. Many "novelties" in the way of garden vegetables and flowers have been sown, and odd seeds from various sources put in, so that there is already material enough at hand to make the "Notes from 'The Pines'" interesting to every one who has a garden, large or small.

The Cedar of Lebanon.

BY A. B. ALLEN.

In a late rapid jaunt over Great Britain and parts of the Continent, I took some pains to visit a few of the famous trees flourishing there. Of the evergreens the Cedar of Lebanon was the grandest and most noble. It is to this class what the white oak is to deciduous trees; and it affords me much pleasure to learn that its cultivation is considerably on the increase now among us. The largest Cedar of Lebanon I know in the United States is to be seen in an open field, formerly a part of the Bloodgood nursery, in the town of Flushing, about ten miles from the office of the *American Agriculturist*. About three years ago it was struck by lightning, and several feet of the top were cut off, but it still towers upward of sixty feet high. The circumference of its trunk, close to the ground, is within a fraction of thirteen feet; three feet above, eleven feet; six feet above, nine feet. The lowest branches commence seven feet from the ground, and have a spread of about forty feet. They are all horizontal, very close to each other in whorls, and gradually diminish in length to the top of the tree, thus forming a symmetrical cone. The foliage is very dense, and of the deepest, purest, and most vivid green, at all seasons of the year. When the sun falls upon this bright, fresh, verdant mass, it lends a golden tinge to its foliage, as beautiful as that of the celebrated Abies (Picea) Nordmanniana. It is not to be wondered at that the Cedars of Lebanon of old were called "glorious," and were said to be "planted in the garden of God."

The soil where this tree stands is a light sandy loam, of moderate fertility. Its growth, therefore, has been slow, giving its wood a good opportunity of ripening well every season before the severity of winter set in; and this is one reason, undoubtedly, why its foliage is such a bright, fresh green all winter. I have watched

this noble tree pretty attentively for several years, and the only time its leaves were found to be tinged by the frost was in January and February, 1868; then the tip ends of many of the branches were changed to a russet color, or rusty brown, which soon wore off, however, as the spring advanced. It is well known that that was the severest and most trying winter for evergreens which we have experienced for many years. The past December, also, was unusually cold, but it did no injury to the foliage of the Cedars of Lebanon in Flushing, there being several others of considerable size there, in addition to the one described above.

A cold, moist soil is injurious to this tree, and it should be grown standing clear of all others. I could but remark the great difference in size and superiority in general appearance of the specimens at Warwick Castle Park, and other places in England, standing by themselves, to those which grew up more closely surrounded by other trees in the Jardin des Plantes, at Paris.

The Wanton Destruction of Timber.

BY M. L. CURTIS, CLYDE, OHIO.

If there is one subject upon which it seems impossible for farmers to properly reason, it is the importance of saving what little remains to us of our forests. Ohio to-day has one mile of railroad for every ten sections of land, with thousands of locomotives and tens of thousands of cars, and shops, depots, docks, bridges, tanks, ties, sheds, and shanties, without number. The shrill scream of the locomotive's whistle reverberating through every forest proclaims its doom. And Ohio is only a sample of other timbered States. In addition to their own wants are the long, lank arms of the timberless regions of the West stretched out for supplies. Then in addition to this are the hucksters, hawkers, and runners, that swarm through the land in search of ship timber, car timber, cabinet timber, pipe, butt, oil, and barrel staves, spokes, bent work, hubs, ax-helves, hoop-poles, oar-blades, handspikes, ship-knees, fork and rake stales, hoe-handles, ball clubs, police staves, and walking canes, to be sent far and wide. Besides this the demand for timber to build steamers, sail and other vessels, docks, and elevators for our vast inland waters as well as for the seaports, and the requirements to build our cities, villages, hamlets, and farm-buildings; to bridge our streams, fence our fields, and warm our dwellings, and the thousand other unnamed uses to which timber is daily applied, gives but a faint view of the demands for to-day. But who shall compute the demand of to-morrow? Every cough from the locomotive's hoarse lungs augments it. Still, in the face of all this, farmers all over our land who are not pinched for timber will argue, "Why let the timber cumber the ground, which, if cleared, would net $5 to $10 profit per acre a year? This at interest would more than buy our timber for all purposes." And so farmers with scanty wood lots are clearing acre after acre, and who shall arrest it? The skillful chopper in one hour demolishes the majestic oak that has required the heavenly benedictions of sunshine and showers for three centuries to grow it. Two years ago an old pioneer living in the interior of Ohio told me that could he have the timber back on his 200-acre farm that nearly killed him and his wife in getting it off, it would sell for $300 per acre, standing. And it was true. I told this to one of my neighbors who was about to clear off his last timber on the plea that the use of the land would be more profitable to him than to save the timber. But I might as well have told it to one of his trees, for his men are now cutting the last acre. The time has come when the growing of timber throughout the prairie and older settled States should be encouraged, and entered upon in earnest. The writer, in a few experiments in growing timber where he now resides, has obtained the following results: Cotton-wood, 13 years' growth, 60 feet high, and 18 inches in diameter 2 feet above ground; Sycamore (Button-wood) about the same diameter, but not so tall; one sample Yellow Willow showed the enormous growth of the annual rings of over 2 inches in width; Locust of 20 years' growth attained a diameter of 12 to 15 inches, tall and symmetrical, and it is a hardy, durable, and valuable kind of timber. Some samples of Butternut, Black Walnut, and Yellow Oak, left standing in the fields, show about the same dimensions. Much of the reserved timber is prematurely dying, which the owners would gladly prevent if they knew the causes. Some of the causes are underbrushing and pasturing. For it is a fact beyond controversy that our primitive forest trees die in a short time after the ground under them becomes turfed over and hardened by the tread of stock. And it is better economy to pelt the sheep and shoot the cattle rather than to continue the practice.

Another active agent in the destruction of timber is ditching. Timber grown on wet land is very sensitive to the spade. Ditch around the woods rather than through them, if possible. Some argue that stone coal is preferable to wood for fuel. Let those who wish to breathe carbonic acid and the fumes of sulphur, and have their bodies begrimmed with smut, their rooms blackened, and the rain dropping from their eaves like ink, accept the coal. The intrinsic value of timber, the relative value of the different kinds, the near day in the future that will see our pine and other forests exhausted with the accumulating agencies of destruction now at work, the thermal modifications the forests exert upon the soil and atmosphere, the certainty that the removal of the forests would repeat here what it has done elsewhere, in turning our beautiful and productive country into a barren waste, are matters of great moment, and should come home to every lover of his country.

Training Raspberries.

In growing raspberries on the large scale, a stake is used to support the canes; but in garden culture, not only is greater neatness secured, but the new canes which are to bear fruit the next year have a better opportunity to develop, if some kind of a trellis is used. One of the simplest supports is the hoop trellis, (fig. 1) given by Mr. Fuller in his Small Fruit Culturist. It is made by driving a stake each side of a stool, and nailing a barrel hoop to them. The canes are to be trained to the hoop, and fastened, to prevent them from blowing about. Another method of training is shown in fig. 2, in which two stakes are driven, one on each side of the plant; the bearing canes are bent over and tied to the stakes, while the new ones grow up in the centre. An improvement on this is to use a wire trellis, which allows both the bearing and the new canes to be supported. Mr. W. R. Davis, Crawford Co., O., sends us his method, which has some features different from any other plan we have seen. He puts strongly braced posts, which project 2½ feet out of the ground, at the ends of the rows, and other stakes at every fourth plant. A No. 12 galvanized wire is stretched between the end posts, and fastened at the top of the intermediate stakes by means of a small staple, driven over the wire. Supposing this to be put up at the time the roots are planted, the new canes, of which four are allowed to grow, are tied to the wire when high enough. The second year two canes from each stool are bent over, and tied to the wire, as shown in fig. 3, while the new canes grow up straight, and are secured to the wire. After the fruiting canes are removed, the new canes are bent over in their place. From the number of inquiries that are made, we infer that it is not generally understood that raspberry canes bear fruit but once. After the fruit is off, they are to be removed, and the new growth trained up to supply their places.

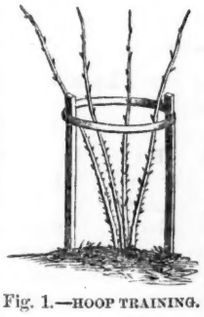


Fig. 1.—HOOP TRAINING.

Fig. 2.—TRAINING TO STAKES.

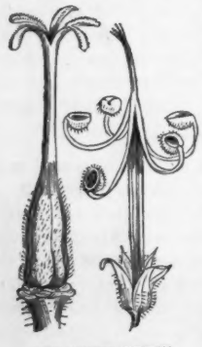
Fig. 3.—TRAINING TO A WIRE.

CURRANTS.—The old Red Dutch, well manured and mulched, will give as large fruit as the Versailles and other large kinds will, if neglected. Mulch the bushes with whatever litter is at hand, and apply powdered hellebore at the first appearance of the worm. A correspondent at La Porte, Ind., writes that he has obtained remarkable results from the use of leached ashes.

SCALE LICE.—The eggs of the Oyster-shell Bark louse hatch this month, and the young brood of very minute lice make their way to the tender, new shoots, where they fix themselves. They soon become covered with an impermeable shield, and can only be destroyed before they are thus protected. Watch them carefully, and at the hatching time apply strong soapsuds.

Geraniums and Pelargoniums.

The name Geranium is so generally associated with green-house and window plants, that but few are aware we have several wild Geraniums, and that those exotics which are commonly called Geraniums are, botanically speaking, not Geraniums at all. The most common, as well as the largest, of our native species is *Geranium maculatum*, the Common Cranesbill, the one shown in the engraving. It is a branching perennial herb, about two feet high, with rather coarse and cut leaves, which, when old, show whitish blotches. The regular, light purple flowers are about an inch across, and are followed by a long beaked fruit, which gave rise to the popular name of Cranesbill, as well as the scientific one, *Geranium*, which is derived from the Greek word for crane; the specific name signifies spotted, in reference to the markings upon the leaves. This beaked fruit is interesting as illustrating one of the many methods in which seeds are scattered. The fruit consists of five pistils, which are attached to a stem-like projection or receptacle. When the fruit is ripe, the lower portions of these pistils, which contain the seed, suddenly break away, and by the curling of their upper portion, throw out the seed. The small engravings given below show the closed and open fruit. The root of this species is very astringent, and is used by physicians and in popular medicine. The Carolina Geranium (*G. Carolinum*), is not rare in barren soils; it has more finely divided foliage, and much smaller flowers. The Herb Robert (*G. Robertianum*), which grows in shady and rocky places, is still more delicate in appearance, and has a strong and unpleasant odor. Some of the foreign species are now and then found in gardens; of these, the Lancaster Geranium (*G. Lancastriense*), is a very pleasing one, it being a perfectly hardy, low growing plant, and is covered with flowers much like those of our common Cranesbill nearly all summer. The green-house plants commonly called Geraniums are Pelargoniums; they are all tender shrubs, or have thick, fleshy stems, and their flowers are irregular, having two of the petals differing somewhat in size and shape from the others. At the base of the flower there is a sort of projection or spur from the calyx, and all of the stamens are not perfect, only seven of them usually bearing anthers. A great deal of fine writing and bad temper have of late been displayed by florists in the discussion as to what are Geraniums, and what Pelargoniums. Botanically, there is no doubt of the difference between the two, and we have given characters sufficient to distinguish them. The name Geranium has become so thoroughly attached to the green-house plants, that it is convenient to continue its use as a popular name for the Pelargoniums. But when florists, as some do, tell us that a part of the Pelargoniums must be called Geraniums, and the other Pelargoniums, we quite fail to see the force of their claims.



GERANIUM FRUIT.

THE CHINESE YAM.—Recently attempts have been made to resuscitate this "novelty."

COMMON CRANESBILL.—(*Geranium maculatum.*)

The whole story is this: The Chinese Yam, *Dioscorœa Batatas*, was introduced about fifteen years ago as a new and valuable esculent, and a substitute for the potato. It is a vine with a handsome foliage, and of vigorous growth. The root, which is the edible part, runs down from two to four feet, and is exceedingly brittle. It is difficult to dig, and when dug is acceptable merely as a variety. The labor of extracting the roots from the soil will prevent it from ever becoming popular, and though it has been before the public for so many years, and extravagantly advertised, it is only to be found in the gardens as a curiosity.

Plants Growing Upon Insects.

Many of the troublesome insects are kept in check by other insects. Besides the insects that are carnivorous in their perfect state, there are others, such as the Ichneumon flies, which deposit their eggs in the bodies of grubs or larvæ, and develop at the expense of the life of the individual within whose body they are placed. These parasitic insects are friends to the cultivator, and there are but few insects which are pests to us but have their troubles in the form of other insects that are pests to them. Besides being preyed upon by insect-parasites, there are also plant parasites which are destructive to insects. It seems only fair that, as there are so many insects destructive to plants, there should be some plants fatal to insects. Those plants which are found as parasites upon insects and other animals belong to that immense order known as fungi. It is a minute fungus that proves so destructive to the silk-worm, and flies and wasps are attacked by others; but these are minute forms of fungi, and appear only as a kind of mould. A much larger fungus attacks the white-grub, which is the larva of the common May-beetle, *Lachnosterna quercina*. Mr. G. W. Weatherby, Mooresville, Mo., sends us specimens of this grub, "some of which are alive and natural, and others have a kind of plant growing out of their heads; there are thousands of them in both stages in all of the new land." We give an engraving of one of these specimens, in which there are two of these growths, one from each corner of the mouth. In most cases, one of these is much longer than the other; in one specimen, both project from the same side of the mouth, and frequently there is only one, when it is longer and thicker than when two are present. The longest specimen (exclusive of the grub) measured two and a quarter inches. The grubs having these appendages were dead and much shrivelled, and as living ones were sent at the same time, we infer that they were found in this condition. The phenomenon has been noticed in the American Entomologist, and by Mr. C. V. Riley in his admirable report on the Insects of Missouri,—the same thing having occurred in Iowa, and in other parts of Missouri. The publications above cited give a letter from a Virginia gentleman, who states that it is well known in Virginia that a white mushroom, poisonous to hogs, is produced from the white-grub. Our specimens are all of a dull purplish color, and whitish at the tip; the editors of the American Entomologist state that theirs were green, which is an unusual color for a fungus. No indications of organs of reproduction were observable, and without these it is not practicable to determine what the growth is. It is to be hoped that the development of this vegetable parasite will be watched, and perfect specimens procured. Did we know the conditions which produce this fungus, it might be made available in the destruction of the white grub. The larvæ of a moth, bearing a similar growth, are brought from New Zealand, and another is known in Chinese medicine under the name of *Hia Tsao Tom Tchom*. It consists of a grub about one and a half inch long, bearing a fungus of about the same length. This is said to be so costly, that it is used only in the family of the Emperor, where it is administered by the agreeable method of adding it to the stuffing of a duck, which is roasted and eaten.

WHITE-GRUB WITH A FUNGUS.

THE HOUSEHOLD.

(☞ *For other Household Items, see "Basket" pages.*)

A Chip of the Old Block.

Nothing is more common than to hear children described by this homely phrase. They cannot help taking upon themselves the character of the homes in which they are nurtured. They have been involuntarily moulded by the influences which they have felt from their earliest hours. Many faults of temper and manners for which we blame them, they have received unconsciously from us, and we only see our own uncomfortable habits made flesh before our eyes, in the condition of those who have been constantly moulded by our example. It is not what we *say*, but what we *are*, that most powerfully affects the childhood in our homes.

The father dies out of an affectionate family, and the mother is left behind in bereavement and sorrow with her little flock of children. As she sits meditating upon her loss, she hears a step coming down the walk. The color rushes into her face, and then she becomes deathly pale and faint. Whose step was that? Is he coming home as usual from his work again? After all, were his sickness and death but a feverish dream? Was that *his* step? The door opens and her oldest son is in her arms! When was he taught to step like his father? Every time his father stepped before him. We are constantly influencing these susceptible young spirits while we are in their presence. Their faces do not bear more distinct marks of our countenances than their tempers do of our spirits. The smiles that pass like sunshine over our foreheads, and the clouds that sometimes veil them, are all imaged upon the souls of the children, just as the beams of midday and the floating vapors are reflected in the bosom of the sea. We bless them by our example more than we can by our counsels. Mothers preach less than fathers, but they influence young children far more. We should be ourselves what we would have them to be. Children are shrewd and close observers.

"Be still!" said a mother to her little son, who was playing just out of the door with his companions while his mother was entertaining company. The noise continued. "Be quiet!" again said the mother; but still the clatter went on. "I shall have to punish you if you do not obey me," said the mother once more, and without effect, to the child. "Aint you afraid she will whip you?" asked one of his companions, surprised at his boldness. "O, no!" returned the little philosopher, "she never whips me until she has spoken louder than that!"

When we find coarse, selfish, unmannerly, unkind children, we can but think the influences of home have been unwholesome. There may have been correct counsels and severe punishments, but the daily temper and habit of the household have not been genial. It is not the storm, the deluge of rain, the electric discharge, that has the most to do in bringing forward vegetable life, although these have their place; but it is the daily sunshine and the evening and morning dews that chiefly nourish and bring to perfection the summer fruits. Neither is it the harsh command, and the sharp, sudden retribution that follows wrong-doing, that has the most to do in giving direction to youthful character, but the daily example and genial tempers of the household. Let it be a compliment to child and parent to say, "he is a chip of the old block."

The Table—Order and Ornament

After every care has been given to neatness and order, and every dish upon the table has been made to look its best, we may then proceed to use ornament for its own sake, and for this purpose flowers are pre-eminent. The most costly vases of crystal or porcelain, and the most elaborately wrought center-piece or epergne of silver, are only most beautiful when they hold flowers, while, on the other hand, these dignify the most humble receptacle. Let us then have flowers upon the table, —not the costly efforts of the florist, but such as the country gardens and the woodsides afford. In arranging flowers there is an opportunity for a display of skill and taste. The finest products of the garden may be huddled into a compact mass, looking much like a many-colored cauliflower, and be surpassed in beauty by a few wildlings from the woods. In flower arrangement it is necessary to have an abundant supply of green, and here is

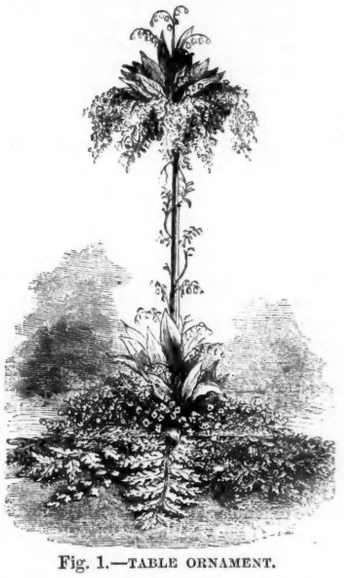


Fig. 1.—TABLE ORNAMENT.

where most fail. A few bits of the lily of the valley put in a wine-glass are more attractive than many masses of flowers called bouquets. We have a large preponderance of green with the delicate white bells of the lily of the valley hanging with their natural grace. The idea of naturalness and grace should pervade all arrangements of flowers for table decoration. We know that the florists will demur at this, but we are writing for people who do not care for flower fashions. Let the rule be, but few colors and plenty of green. There should always, when practicable, be a plenty of white flowers, and a plenty of spray-like green, to give lightness to the bouquet. Asparagus green often comes in very cleverly for this. In arranging flowers in a vase, let them look as if they enjoyed being there, and not as if crowded in and held in durance. For something more elaborate than a vase bouquet, we have used with much satisfaction a plan suggested some years ago by one of the English journals. A stand is made, like that in fig. 2. It consists of two tin plates; the lower one, which should be larger in proportion than here shown, has a socket in the middle on the inside, and the upper one a similar socket on the under side. A solid rod or glass tube, which may be had of the druggists, serves as the standard, and fits into the sockets. The lower plate should be made of heavy tin or galvanized iron, in order to be sufficiently stiff. The two plates, which are painted green, are to be filled with wet sand, into which the stems of the flowers are stuck. Figure 1 gives an idea of the effect when finished. Many of our wild ferns may be used, but they should be dipped in water to prevent them from wilting. Light, drooping plants are best suited to the upper plate, and some delicate vine may twine around the glass rod. A stand of this kind filled with well-chosen green only would be beautiful, but when flowers are introduced, it is really elegant. Moss may be used in the plates instead of sand; it is lighter, but it is more trouble to insert the flowers in it.

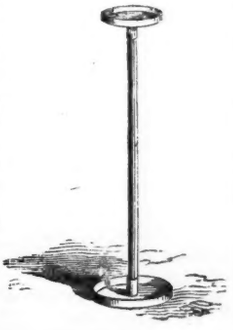


Fig. 2.—STAND.

Household Talks.

BY AUNT HATTIE.

BOTTLING FRUIT.—The question is often asked, "What kind of bottles do you use?"—I reply, any and all kinds, from a common long-necked bottle for green currants, gooseberries, and rhubarb, to pickle jars for strawberries and raspberries, up to the glass, wide-mouthed, self-sealing, patented fruit jars, which I reserve for plums, pears, and peaches, or any kind of fruit which it is desirable to preserve in an unbroken state. These narrow-mouthed bottles may be sealed very nicely and effectively in the following way: Procure some pieces of new cotton cloth large enough for the purpose; then melt together an ounce of mutton tallow and a pound of rosin; a little beeswax would be an improvement. Have it melted and mixed, and standing on the back of the stove, ready when you wish to use it. After the boiling fruit has been successfully introduced into the bottle, and while in this heated state, put in the cork, if you have one, or if not, a wooden plug will answer. Take one of the pieces of cloth and tie it with a stout string over the mouth of the bottle; then cover entirely, rim and all, with the warm rosin. It would be as well to put another cloth over this, and, perhaps, more rosin; it must be air-tight. If I were to get a fresh supply of bottles, I should choose a kind the lid of which would move or slip up if subjected to pressure from within, as would be the case if fermentation of the contents occurred. I never have had such an accident happen to me, but I have been assured that where lids are made to screw tightly on to the bottle and the fruit fermented, the bottle would burst before the lid would yield. Learners in the art would do well to confine their first efforts to bottles with corks, using wax to make them air-tight.

TO BOTTLE STRAWBERRIES. — Wash, stem, and weigh the fruit, and to every pound of fruit allow at least one quarter of a pound of the best white sugar; put into the preserving kettle a pint of water and a pound of the sugar; dissolve the sugar, and when the syrup boils, put in a quantity of strawberries,—say three or four pounds; let the kettle stand on the back of the stove until the fruit appears well heated through; then remove to the front, and when it boils briskly, bottle immediately. If quite juicy, leave some of the syrup in the kettle and add more sugar (not any water); put in more berries and proceed as before. Of course during this time the bottles will have been prepared by placing them in warm water, to prevent cracking when the boiling fruit is poured in.

PICKLED WALNUTS.—I have procured from an English lady a recipe for making walnut pickle. She informs me that butternuts will answer the purpose, but are not so nice as the English walnut. Gather the nuts just before the kernel commences to harden, prick them through and through several times with a coarse needle, put them into a crock, pour over them a rather strong brine, and allow them to remain for three or four days; drain and spread them in the sun until they are dry and have turned to a dark brown or nearly black. Put them now into a suitable jar, and pour over them boiling spiced vinegar, using 2 ounces of mustard seed, a little mace, 2 ounces of allspice, and 2 ounces of whole black pepper, to one gallon of vinegar. A few onions may be added, if your taste will permit. This pickle may be used at any time after making, but is much better for being kept a year. After the pickles are used, the vinegar may be boiled and bottled for catsup, as it is excellent.

MOLASSES CAKE.—I have been making a kind of molasses candy gingerbread, which the children seem to appreciate, and in fact, I enjoyed eating some of it myself. A quart of molasses and two tablespoonfuls of butter were boiled gently on the back of the stove for nearly an hour. When nearly

cold, a tablespoonful of ground ginger and flour enough to make a stiff dough were added; this was rolled thin, and cut into cakes with a one-inch cutter. They will not rise, but will spread a good deal over the pan while in the oven; therefore they should be put some distance apart. Bake three to five minutes, and let them cool before removing from the pan.

COCOANUT CAKE.—Take two cups of sugar, two tablespoonfuls of butter, and the yolks of two eggs; beat to a foam, add to it one cup and a third of sweet milk; add gradually three cups and a quarter of flour, and three teaspoonfuls of baking powder, or two teaspoonfuls of cream of tartar and one of soda. Bake in the same way as jelly cake, but when each layer is cool, instead of using jelly, make a meringue of the white of one egg well beaten, nine teaspoonfuls of white sugar, and grated cocoanut, using the whole or half of one as convenient. Mix and spread evenly on one of the cakes or layers, then put on another layer, and so on until you have an ordinary sized loaf of cake. This quantity should make two loaves.

Lamp Brackets—Useful and Ornamental.

Those who use lamps—and this includes the majority of our readers—will often find it very convenient to have brackets on which to place them. The bracket may be merely a simple shelf or a very elaborate affair. We like to see such things home-made, and they afford an opportunity for the younger members of the family, both boys and girls, to display their skill. A lady of our acquaintance is quite celebrated among her friends for her handiwork with the saw and knife. A very simple and not inelegant pattern for beginners is sent by "A. D. H.," Blairsville, Pa., who says: "Take ½-inch stuff, and mark out with the compasses a circle 10 inches in diameter. Inside of this, mark another circle ¾ of an inch less. Divide the circle into four parts, as shown by the dotted lines in fig. 2; then mark the smaller circles, leaving the cross-bars as shown in the engraving. This forms the back-piece; a solid semicircular piece, fig. 3, serves for the shelf, and the brace, fig. 4, is made exactly like one-quarter of the back-piece. The whole can be laid out with the compasses and square, and be cut out with a compass-saw. The parts may be put together with wooden pins or with glue. It may be suspended by means of two brass-headed nails driven into the wall, as shown in fig. 1. If the bracket is made of soft wood, the parts may be cut out with a knife." When one becomes skilled in this kind of work, the pattern may be made more elaborate. In fig. 5 our artist suggests a slight variation, which will give an idea for other patterns. When the regular form first given is departed from, it is best to make the pattern on a piece of stiff paper, and carefully draw it out upon the wood. The wood of which cigar-boxes are made is often used for small work of this kind. There is a great deal of power wasted by boys in whittling, and it would be well if these suggestions would induce them to whittle to some purpose. A pair of neat brackets would allow a boy to surprise his mother or some friend with a most acceptable present, and even the father need not be ashamed to bring in from the workshop a pair that he has made.

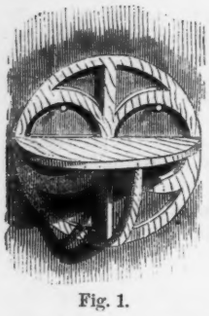


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Amusements for Children.

BY MRS. LUCY LAMB.

"How shall I amuse the children during the evenings?" is a question of no slight importance to many mothers who have sons growing up.

In almost every neighborhood there are some boys who are allowed to stay in the streets from the time that school closes until bedtime. This street night-school is the place where many boys take their first lessons in crime.

Neighbor Brown has four sons, some of them grown now, and all of them worthless. Years ago, when a teacher in a public school where they were in attendance, I became acquainted with their manner of life. They were little boys then, bright, and possessed of more than ordinary talent. But there was, for them, no home attraction. The father attended all the meetings of the church, but left his boys to spend their evenings in the streets, planning and executing mischief. Studies were neglected and school-time wasted. Playing truant, robbing fruit-trees, and kindred diversions, came to be common pastimes for boys whose parents, though good people, and members of a church, yet failed to restrain their sons from the influence of bad companions by providing such amusements at home as would make them love it.

On the other hand I know a little boy thirteen years of age, (I say "little boy," because he has no ambition to be thought a man yet, and does not use tobacco,) who has never learned to love the street-school. During the intermissions of study his play is heartily relished, but the evenings at home are the crowning joy of the day. If there are no lessons to be learned, there are two good hours for some kind of entertainment. This little boy has three sisters, younger than himself, and a baby-brother, all of whom require some one to direct their pastimes. In this instance the office is filled by one who loves them best, the mother. Regarding the early years of her children as most important in forming their tastes and giving tone to their characters, she has devoted her time and energies to cultivating in them a taste for such innocent amusements as every home may offer to its children.

In the first place a choice and careful selection of reading matter is provided. The *American Agriculturist*, Little Corporal, and other good papers, find their way to the pleasant home of these little ones. Old, cast-off blank books and scraps of clean letter paper are carefully hoarded to be adorned with pencil sketches of animals, plants, buildings, or articles of furniture, sometimes colored with the contents of a twenty-five-cent box of water-color paints; and these serve to amuse and instruct, while they insure safety from "evil communications." When the voices of truant schoolmates chance to reach the ears of the folded lambs at home, a merry game of "blind-man's-buff," or a treat of pop corn will prove a very certain counter-attraction, and richly repay the mother, who esteems it not beneath her dignity to join the children in their sports.

For children who are old enough to understand them, an almost endless fund of entertainment can be found in playing charades. To illustrate very simply for beginners, let me explain how this may be done. Suppose there are four children. Let two go into the next room and privately decide upon some word. To begin with, let them choose the word *High-way*. That is easy to act. Let one of them open the door and announce to the others that the word is composed of two syllables, and there will be two acts. Then let one or both come in and mount a chair or table and stand for a moment. This is the first act. Then bring in the scales and weigh some article. This is the second act. Those in the room must solve or "guess" what the word is; and then they go out and choose a word to puzzle the others.

A little practice will enable children to act a great many words, and while engaged in such harmless diversions, with Mamma to assist occasionally, many pleasant hours can be spent around the fireside.

For Sunday evening employment, something different should be chosen. The youngest can always be interested in the rehearsal of Bible stories. While too young to read for themselves, a lively description of the prominent scenes and incidents of Bible history may be so fixed in their minds that the pictures will remain, even after they read the stories for themselves in later years.

To Make Tea.—By Mrs. I. J., Northampton, Mass. First, heat the teapot by pouring boiling water into it; pour this out, and put into the pot as much good tea as you wish to use; then pour in boiling water enough to completely cover the tea so as to wet it thoroughly. Set the pot on the cooking table, if that is handy, (it need not be set on anything that is hot) and in five minutes pour in boiling water enough for the first cups, and pour out immediately. If a second cup, or cups, are wished, and tea enough has been put in the pot, add boiling water in sufficient quantity. This rule applies particularly to Japanese and Hyson teas. I do not know that black tea would be as good made in this way, as if it were steeped longer. That may depend on taste.

Boiled Brown Bread.—Mrs. E. A. M., Springfield, Mass., sends the following, which she says is "very good." We do not see the use of the coffee, unless it be to give a color to the bread.—One pint sifted corn meal, one pint unsifted rye meal, ⅔ cup molasses, ⅓ cup liquid coffee, 1 teaspoonful salt, 1 heaping teaspoonful of soda. Mix to a rather stiff batter with sour milk or buttermilk (buttermilk is the better), pour into a 3-quart tin pail, and cover tightly; set the pail in a kettle of boiling water, and keep it boiling six or eight hours.

Mary James' Cracker Pudding.—"E. H. F.," Leicester, Mass., communicates the following, which is commended as "cheap and first-rate."—Two quarts of milk; ten soft crackers; one cup of molasses; one cup each of sugar, whole raisins, and chopped suet. Break up (not pound) the crackers, and put them into the pan with the milk (cold), and set the pan on the stove until they are soft; then add the other ingredients. Salt and spice to taste, and bake in a *slow* oven for three hours. Stir once or twice after it begins to bake, and be careful not to let the raisins burn on the bottom. Bake in a deep pan or crock, and be sure not to bake too fast on the bottom.

Pudding Sauce Wanted.—A friend in Illinois wishes us to give recipes for pudding sauce, to be composed of articles readily obtained by farmers, and not calculated to disagree with a digestion less delicate than that of an ostrich.

Summer Drink.—Take the juice of six lemons and one pineapple, cut in small pieces, add sugar to suit the taste, and put in plenty of ice with the water. UNIQUE.

Popping Corn.—Geo. W. H. says: "In the April number of the *Agriculturist* there was a recipe for popping corn. I think I know a better one, viz.: Place in an iron vessel (which should be rather deep and broad) enough salt to cover the bottom to the depth of half an inch. Place it over a hot fire, and put in as much corn as you wish to pop; cover it over, to prevent the corn from flying out when it bursts, and in a few minutes the greater part of the corn will be found nicely popped."

Cream Batter Pudding.—Half a pint of sour cream; half a pint of sweet milk; half a pint of flour; 3 eggs; a little salt; half a teaspoonful of soda. Beat the whites and yolks of the eggs separately, and add the whites last. Bake in a moderately hot oven. This is the *queen* of batter puddings. A very nice sauce for it is made by adding to a coffee cup of boiling milk, a tablespoonful of flour, first wet with a little cold milk. Have ready a teacupful of sugar and half a teacupful of butter, thoroughly stirred together; and when the flour and milk have boiled two or three minutes, add the sugar and butter. Stir well, but do not boil. Flavor with vanilla.

BOYS & GIRLS' COLUMNS.

Stick to the Plow and the Plane.

Don't come to the city, my boy. Your chance, in the long run, is better where you are. Hundreds, indeed, make fortunes here, but thousands live wearisome and even suffering lives in the city. Clerks have larger salaries than young farmers, but then their expenses for boarding, clothes, and amusements, are so much larger, that less is saved at the end of the year. Then the temptations of the city are so strong and so constant that few young men resist them. Not many young city clerks, even if they avoid bad company, are able early in life to have a home of their own. A young man in the country, soon after his time becomes his own, can secure capital enough, with an economical wife, to set up housekeeping for himself, and have a quiet, comfortable, and even beautiful little home of his own. One of the wealthiest men in the vicinity of Boston, who died a few years since, said the happiest years of his life were passed when he was gathering, very slowly, the beginnings of his fortune. When he married, he and his wife were worth, each, twenty-five cents, and they labored lovingly and happily together. This was certainly a very small fortune for two to commence upon, but they were worth hundreds of thousands when they died, gathered by economical labor. The writer knows an excellent young man in this city who is now nearly thirty. He has long been engaged to a young lady of fine talents and a good temper. It would be a great comfort to both to be married; but then, his salary, although quite large, would not support them in the style of life to which the young woman has been accustomed in her own home. Besides, the position of clerks is very uncertain. By the failure of what was considered one of the strongest houses in the city, this young man was thrown out of place and salary for six months. Stick to the plow then, or to some solid, wholesome trade. You will then be sure of a comfortable living. You can earlier have a home of your own, and you will be less exposed to the constant changes in business, which destroy at one blow the earnings of years.

How Noah's Animals are Made.

At the Royal Gardens at Kew, England, are collected plants from all parts of the world, and in a Museum at the same place are shown the various things that are made from plants, from the delicate gauze made of pine-apple fibre, to large specimens of plank and other lumber. If our young friends were to visit this Museum,

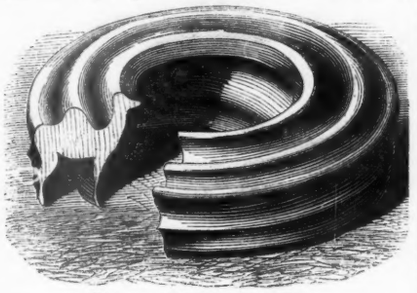


Fig. 1.—A BLOCK FOR CAMELS.

they would find many things to interest them, and among the rest, toys made of wood. "Children's toys in a Royal Museum?" Certainly; toys are very useful things. Those who make them earn their living by them, and the boys and girls who finally get them are amused and often instructed. One of the commonest and most popular toys is Noah's Ark, which almost every boy and girl knows is a

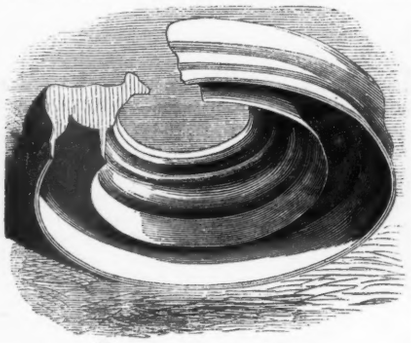


Fig. 2.—A BLOCK FOR LAMBS.

minute model of the ark with a wooden Noah's family, and a large number of pairs of wooden animals, from the elephant down to the smallest. It is great fun to arrange these animals in twos, and make a procession marching into the ark. Older persons have wondered how all these animals could be made so cheaply. In the Kew Museum some specimens of the wooden manufactures of Saxony show the way in which these animals are made. The wood for each is turned out of the proper shape in a lathe. It looks like a circular picture frame, or moulding—and nothing could look less like one of Noah's animals. This circle is then sawed into pieces, and, as will be seen by the engraving, each piece makes an animal, which only needs a little smoothing up, and painting, and to be furnished with ears, tail, horns, etc., as the case may be. The upper engraving shows a camel, the lower one, a lamb. This was thought sufficiently curious to be shown in the learned Gardeners' Chronicle, and we borrow the picture for our boys and girls.

Appearances against Him; the Truth in His Favor.

A New England merchant, doing a large business, requiring several clerks, a short time since missed several articles of value from his store. He determined to watch the habits of these young men to discover, if possible, which one, if either of them, was untrustworthy. There was one of them who appeared particularly active and faithful; was the first to come and the last to leave at night; his dress was inferior to that of the other clerks; and he was evidently not particularly popular among them. The merchant learned that this young man remained for half an hour or more after the others left, with the door of the store locked. This circumstance awakened his suspicions, and he arranged a plan to conceal himself in the store, so that he might discover what occurred when the clerk supposed himself to be unobserved. Having sent the young man upon an errand just before the hour of closing, he entered his place of concealment. The door was locked as usual, at the proper time. The clerk at once began to sweep and put the establishment in order. While waiting for the dust to settle, he was seen to go behind the counter, and taking something from under it, place it in the breast of his coat. The merchant was now all alive to discover what had been taken and what was to be done with it. The young man went to the window and sat in silence a few moments, apparently examining the package which he had taken from his breast. The merchant was not left long in doubt. His clerk soon fell upon his knees; he saw that it was the Bible he had been reading; and now he offered aloud a simple and touching prayer, for himself, his mother and sister, his employer, and particularly for a brother clerk, who, he feared, was yielding to temptation. After he had finished dusting he left the store, unconscious of having had a human eye upon him.

It is easy to believe that the merchant was deeply affected by what he had seen and heard. This clerk's salary was increased several hundred dollars a year, and he was given the position made vacant by the discharge of another whose criminal acts had been discovered.

Prairie Life for Invalid Girls.

BY GRACE PERCIVAL.

I write this sketch in the hope of arousing one of those pale, nervous, young ladies who lie on their sofas the most of the time, to take more exercise, and, if possible, out in the fields, among the birds and flowers. My health had always been rather delicate, until we moved out on the farm, nearly a year ago, and now I can hardly believe that I am the same person, so great is the change. One morning last May papa came in, and finding me reclining on the lounge, asked me if I would not like to help drop corn. Never having been accustomed to work much, I looked surprised, I have no doubt, at the proposition; but, after considerable coaxing, I at length rather dubiously consented to try the experiment. So after arraying myself in a short calico dress, thick shoes, and large straw hat, we set out for the field. Our way led through a meadow of brightest green, spangled with dew, and embroidered with beautiful wild flowers. The field was situated on a knoll, and commanded a wide view of the surrounding prairie. I felt like shouting aloud, every thing looked so lovely, that bright May morning. But there was the corn to drop! and I was soon busily engaged in this very romantic occupation. I did not become quite fascinated with it; though I fear my mind was more intent on some day-dream, suggested by that lovely scene, than upon my work. But that evening, when I sat down to the supper table, I felt that the day's work had done me good, and I was refreshed in mind and body. I resolved to take a walk every day, and be out in the open air as much as possible. I have never had any reason to regret keeping that resolve. Will that invalid young lady for whose benefit I am writing this listen to a word of advice? If you can, make your home in the country; take an interest in out-door work and rural recreations, such as walking, riding, bathing, and many others I might mention. A flower garden is a very pleasant place for exercise, while keeping it in order and enjoying its products. Every thing is lovely in the country! There are murmuring brooks, shaded by handsome trees, soft, velvety meadows, and beautiful birds and flowers, all leading your soul from the contemplation of things terrestrial up to Nature's God, and the glories of a celestial home.

What's the difference between an overcoat and a baby? An overcoat is what you wear (were), a baby what you was.

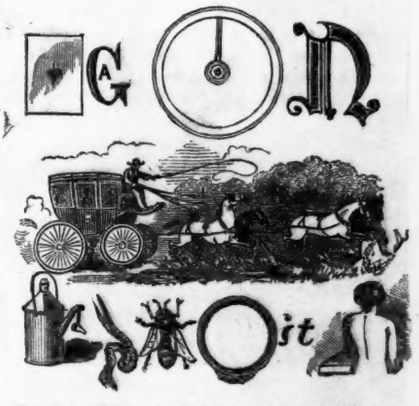
Answers to Problems and Puzzles.

The following are answers to the puzzles in the May number, page 183. No. 343, Yours (ewers). No. 344. Be sure you are right, then go ahead. The following have sent correct answers: Isaac N. Millikan, Walter P. Ferguson, George A. Jacobs, Addie M. N., D. L. Morrison, A. J. Vincent, Frederick Pfister, P. A. Sellers, Milton Snyder, D. H. B., Robert S. Marshall, Mira M. Walker, Daniel Lees (2), James A. Sanford (2), Ella Lathrop, J. V. Oren, Mrs. J. V. Oren.

Motto of market gardeners: "Let us have peas."

The first time little Billy S. noticed the thunder, he said, "Mother, they are scouring up in heaven." His mother said, "How do you know, my child?" He replied, "I hear 'em moving the chairs about."

New Puzzles to be Answered.



No. 344. *Rebus.*—A hint for gossipers to heed.

No. 345. *Puzzle Picture.*—Japanese Jugglers. How many are there?

No. 346. *Conundrum.*—Why have these fishes no substance.

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MANY A SLIP BETWEEN THE CUP AND THE LIP.—DRAWN BY HERRICK.—*Engraved for the American Agriculturist.*

He was so sure of a pigeon supper at midnight that he can hardly believe his own eyes as the bird flies away and a few tail feathers drop out of his mouth! It is the Virginia Opossum who has planned this dark deed, as his cruel habit is. Quite an innocent looking little fellow, you see; but he is a great thief and burglar, nevertheless! He is about the size of a cat, twenty inches long, with the snout of a pig. He has a remarkable tail of fifteen inches, by which he suspends himself from the branch of a tree. He plunders poultry-yards, steals corn, loves nuts and berries, and often hunts birds' nests by night in order to catch the sitting mother, as well as to eat her eggs. Hunting the opossum is a favorite amusement at the South, especially among the young negroes, who are very fond of its flesh in the autumn, when it is tender, fat, and flavored like that of a sucking pig.

We trust none of our young readers will "play 'possum"; for this animal is a lazy fellow. He loves to lie during the day upon his back in the sun. When a boy is lazy, he is said to be "playing 'possum." We certainly hope they will not imitate his midnight adventure. Don't disturb the birds or their nests! It would have served this intruder right, if a sharp colored boy had been represented, hid away in the branches, seizing the opossum just as his victim flies from his open jaws.

DON'T LOSE THE R'S.—In many parts of the country the letter r is in great danger of being lost from the language. It is very amusing to hear some persons pronounce words in which there is the letter r. We know young people who never say bird, but it is always *boied*, as near as it can be written. These same people never go to church, but they attend the *choich*, and hear the minister preach upon *etoinity*, as they miscall eternity.

The Cedar Rapids Times says that a young girl, "sweet sixteen," of Linn County, Iowa, for six weeks last winter, during the sickness of her father and mother, attended 48 head of sheep, 8 head of horses, 12 head of cattle, and 2 calves, besides milking three cows, driving the cattle one quarter of a mile every day to water, cleaning the horses' stable, doing the housework, and taking care of her sick parents. Such a girl is a real heroine.

The late lamented Mr. Brady, at a complimentary supper which he attended a few weeks before he died, made an amusing allusion to the plague of mosquitos which sometimes falls upon New Yorkers. Two Irishmen, he said, had just come over and landed at the city. They had heard of the terrible bite of these little *serpents*, and were in no little dread of them. They had a little experience of their lances in their bedroom while they were undressing. They hurried to get beneath the bed-clothes, which they at once drew over their faces for a defence. Mike, after a little, drew down the sheet and looked out to survey the scene; but he soon drew his head under the covering again, and cried out to his companion, "They are in airnest, Pat, by me sowl, for they've brought their lantherns wid them!" Mike had seen, as he looked out into his room, a lightning-bug—an insect with which he was not familiar.

A few Sundays since a Lewiston clergyman in his pulpit had occasion to use his handkerchief, and to his astonishment scattered in all directions some fifty specimens of paper dolls, which his little girl had lodged in the parental pocket for safe keeping. The effect upon the audience was as marked as that created by the Japanese paper butterfly player.

The son of a well-known publisher perpetrated an odd conundrum the other day upon a friend of ours who has a shining bald head, entirely innocent of hair, much to his amusement. "Why," said little pertness, "is your head like heaven?" "I give up," said the Col. "Because there is no parting there, and it will never die (dye)."

"THE BEST JUVENILE MAGAZINE EVER PUBLISHED IN ANY LAND OR LANGUAGE."

OUR YOUNG FOLKS.

The Story of a Bad Boy, by Mr. T. B. ALDRICH, has excited a deeper and more general interest than any other story ever published in a Juvenile Magazine. It is awaited monthly with impatience, and read with the greatest eagerness and delight by both old and young. We give below an extract from the June number of "OUR YOUNG FOLKS."

GYPSY, THE PONY.

This record of my life at Rivermouth would be strangely incomplete did I not devote an entire chapter to Gypsy. I had other pets, of course; for what healthy boy could long exist without numerous friends in the animal kingdom? I had two white mice that were forever gnawing their way out of a pasteboard *chateau*, and crawling over my face when I lay asleep. I used to keep the pink-eyed little beggars in my bedroom, greatly to the annoyance of Miss Abigail, who was constantly fancying that one of the mice had secreted itself somewhere about her person.

I also owned a dog, a terrier, who managed in some inscrutable way to pick a quarrel with the moon, and on bright nights kept up such a ki-yi-ing in our back garden, that we were finally forced to dispose of him at private sale. He was purchased by Mr. Oxford, the butcher. I protested against the arrangement, and ever afterwards, when we had sausages from Mr. Oxford's shop, I made believe I detected in them certain evidences that Cato had been foully dealt with.

Of birds I had no end,—robins, purple-martins, wrens, bullfinches, bobolinks, ringdoves, and pigeons. At one time I took solid comfort in the iniquitous society of a dissipated old parrot, who talked so terribly, that the Rev. Wibird Hawkins, happening to get a sample of Poll's vituperative powers, pronounced him "a benighted heathen," and advised the Captain to get rid of him. A brace of turtles supplanted the parrot in my affections; the turtles gave way to rabbits; and the rabbits in turn yielded to the superior charms of a small monkey, which the Captain bought of a sailor lately from the coast of Africa.

But Gypsy was the prime favorite, in spite of many rivals. I never grew weary of her. She was the most knowing little thing in the world. Her proper sphere in life—and the one to which she ultimately attained—was the sawdust arena of a travelling circus. There was nothing short of the three R's, reading, 'riting, and 'rithmetic, that Gypsy could n't be taught. The gift of speech was not hers, but the faculty of thought was. She combined the wisdom of the serpent with the harmlessness of the dove.

My little friend, to be sure, was not exempt from certain graceful weaknesses, inseperable, perhaps, from the female character. She was very pretty,—and she knew it. She was also passionately fond of dress,—by which I mean her best harness. When she had this on, her curvetings and prancings were laughable, though in ordinary tackle she went along demurely enough. There was something in the enamelled leather and the silver-washed mountings that chimed with her artistic sense. To have her mane braided, and a rose or a pansy stuck into her forelock, was to make her too conceited for anything.

She had another trait not rare among her sex. She liked the attentions of young gentlemen, while the society of girls bored her. She would drag them, sulkily, in the cart; but as for permitting one of them in the saddle, the idea was preposterous. Once when Pepper Whitcomb's sister, in spite of our remonstrances, ventured to mount her, Gypsy gave a little indignant neigh, and tossed the gentle Emma heels over head in no time. But with any of the boys the mare was as docile as a lamb.

Her treatment of the several members of the family was comical. For the Captain she entertained a wholesome respect, and was always on her good behavior when he was around. As to Miss Abigail, Gypsy simply laughed at *her*,—literally laughed, contracting her upper lip and displaying all her snow-white teeth, as if something about Miss Abigail struck her, Gypsy, as being extremely ridiculous.

Kitty Collins, for some reason or another, was afraid of the pony, or pretended to be. The sagacious little animal knew it, of course, and frequently when Kitty was hanging out clothes near the stable, the mare, being loose in the yard, would make short plunges at her. Once Gypsy seized the basket of clothes-pins with her teeth, and rising on her hind legs, pawing the air with her fore feet, followed Kitty clear up to the scullery steps.

That part of the yard was shut off from the rest by a gate; but no gate was proof against Gypsy's ingenuity. She could let down bars, lift up latches, draw bolts, and turn all sorts of buttons. This accomplishment rendered it hazardous for Miss Abigail or Kitty to leave any eatables on the kitchen table near the window. On one occasion Gypsy put in her head and lapped up six custard pies that had been placed by the casement to cool.

An account of my young lady's various pranks would fill a thick volume. A favorite trick of hers, on being requested to "walk like Miss Abigail," was to assume a little skittish gait so true to nature that Miss Abigail herself was obliged to admit the cleverness of the imitation.

The idea of putting Gypsy through a systematic course of instruction was suggested to me by a visit to the circus which gave an annual performance in Rivermouth. This show embraced, among its attractions, a number of trained Shetland ponies, and I determined that Gypsy should likewise have the benefit of a liberal education. I succeeded in teaching her to waltz, to fire a pistol by tugging a string tied to the trigger, to lie down dead, to wink one eye, and to execute many other feats of a difficult nature. She took to her studies admirably, and enjoyed the whole thing as much as anybody.

The monkey was a perpetual marvel to Gypsy. They became bosom-friends in an incredibly brief period, and were never easy out of each other's sight. Prince Zany—that's what Pepper Whitcomb and I christened him one day, much to the disgust of the monkey, who bit a piece out of Pepper's nose—resided in the stable, and went to roost every night on the pony's back, where I usually found him in the morning. Whenever I rode out, I was obliged to secure his Highness the Prince with a stout cord to the fence, he chattering all the time like a madman.

One afternoon as I was cantering through the crowded part of the town, I noticed that the people in the street stopped, stared at me, and fell to laughing. I turned round in the saddle, and there was Zany, with a great burdock leaf in his paw, perched up behind me on the crupper, as solemn as a judge.

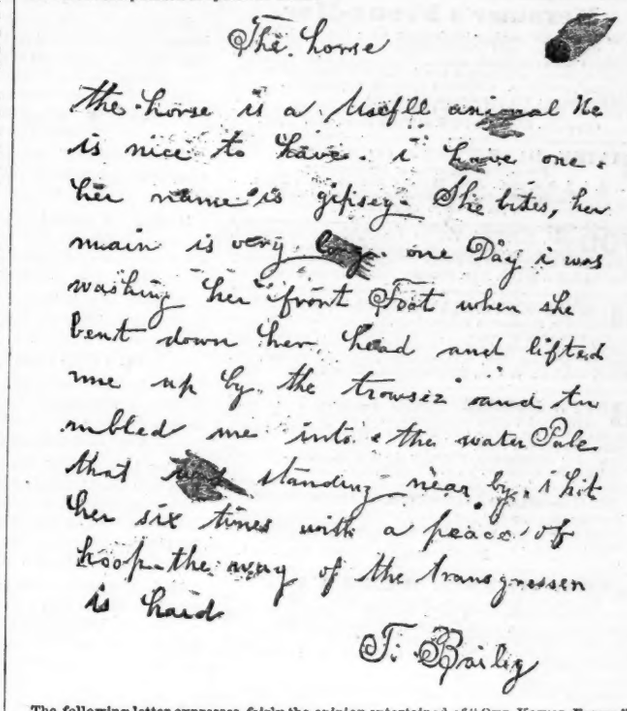
After a few months, poor Zany sickened mysteriously, and died. The thought occurred to me then, and comes back to me now with redoubled force, that Miss Abigail must have given him some hot-drops. Zany left a large circle of sorrowing friends, if not relatives. Gypsy, I think, never entirely recovered from the shock occasioned by his early demise. She became fonder of me, though; and one of her cunningest demonstrations was to escape from the stable-yard, and trot up to the door of the Temple Grammar School, where I would discover her at recess patiently waiting for me, with her fore feet on the second step, and wisps of straw standing out all over her.

I should fail if I tried to tell how dear the pony was to me. Even hard, unloving men become attached to the horses they take care of; so I, who was neither unloving nor hard, grew to love every glossy hair of the pretty little creature that depended on me for her soft straw bed and her daily modicum of oats. In my prayer at night I never forgot to mention Gypsy, with the rest of the family,—generally setting forth her claims first.

Whatever relates to Gypsy belongs properly to this narrative; therefore I offer no apology for rescuing from oblivion, and boldly printing here, a short composition which I wrote in the early part of my first quarter at the Temple Grammar School. It is my maiden effort in a difficult art, and is, perhaps, lacking in those graces of thought and style which are reached only after the severest practice.

Every Wednesday morning, on entering school, each pupil was expected to lay his exercise on Mr. Grimshaw's desk; the subject was usually selected by Mr. Grimshaw himself, the Monday previous. With a humor characteristic of him, our teacher had instituted two prizes, one for the best and the other for the worst composition of the month. The first prize consisted of a penknife, or a pencil-case, or some such article dear to the heart of youth; the second prize entitled the winner to wear for an hour or two a sort of conical paper cap, on the front of which was written, in tall letters, this modest admission: I AM A DUNCE! The competitor who took prize No. 2 was n't generally an object of envy.

My pulse beat high with pride and expectation that Wednesday morning, as I laid my essay, neatly folded, on the master's table. I firmly decline to say which prize I won; but here is the composition to speak for itself:—


The Horse
the Horse is a useful animal He is nice to have. I have one. Her name is Gipsey. She bites, her main is very [illegible]. one Day I was washing Her front Foot when she bent down Her Head and lifted me up by the trowsiz and tumbled me into the water Pale that [illegible] standing near by. I hit Her six times with a peace of hoop the away of the transgressen is Paid
T. Bailey

The following letter expresses fairly the opinion entertained of "OUR YOUNG FOLKS," as comunicated in numerous letters to the Publishers.

SPRINGFIELD, Feb. 23., 1869.

TO THE EDITORS OF "OUR YOUNG FOLKS."

"Your magazine is such a source of delight in our family, and at the same time so valuable and instructive to our children, that I feel impelled to write you and thank you for what you are doing for them and for others like them. We have taken the magazine ever since it started, but we think it more interesting than ever this year.

"The 'Story of a Bad Boy' pleases my boys so much that they fairly commit each instalment to memory. Mr. Trowbridge's articles on Glass-Making we have found particularly interesting, and so are the articles by Mr. Parton, and Mr. Hale, and Mrs. Agassiz. I assure you that the monthly arrival of your Magazine is a great event in our household. Expectation gets on tiptoe about the middle of each month, after which time the Post-office boy is closely watched by two pair of eager young eyes, on the lookout for what they call 'the best magazine that ever was.'

"In sober earnest, dear Editors, I feel that you are doing my children an inestimable good, that you are furnishing to them a style of reading in every respect admirable and particularly adapted to them; and as I see the interest with which they read what you prepare for them, and observe its restraining and developing influence upon their young minds, I feel grateful that in their education I have such a valuable assistant as your magazine.

Respectfully yours, MRS. A. M."

☞ **"OUR YOUNG FOLKS" is only Two Dollars a year, and the numbers for January, February, March, and April, 1869, will be sent free to any one who wishes to examine the Magazine, on application to the Publishers,**

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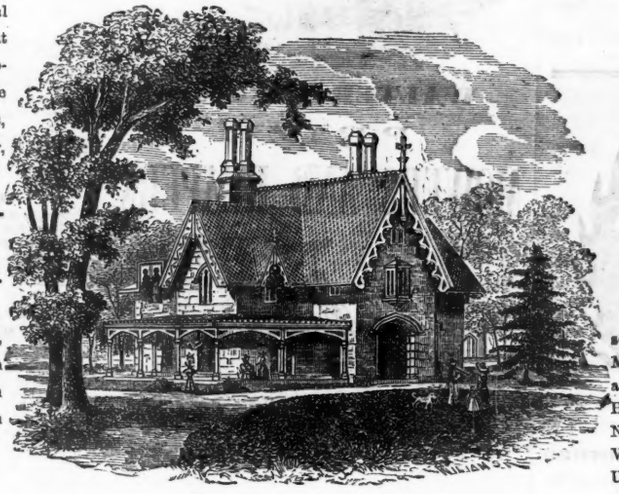

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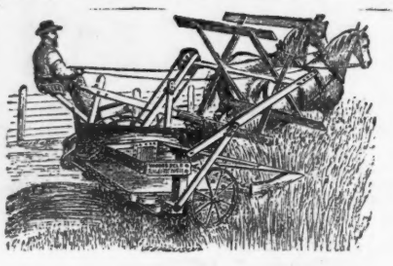

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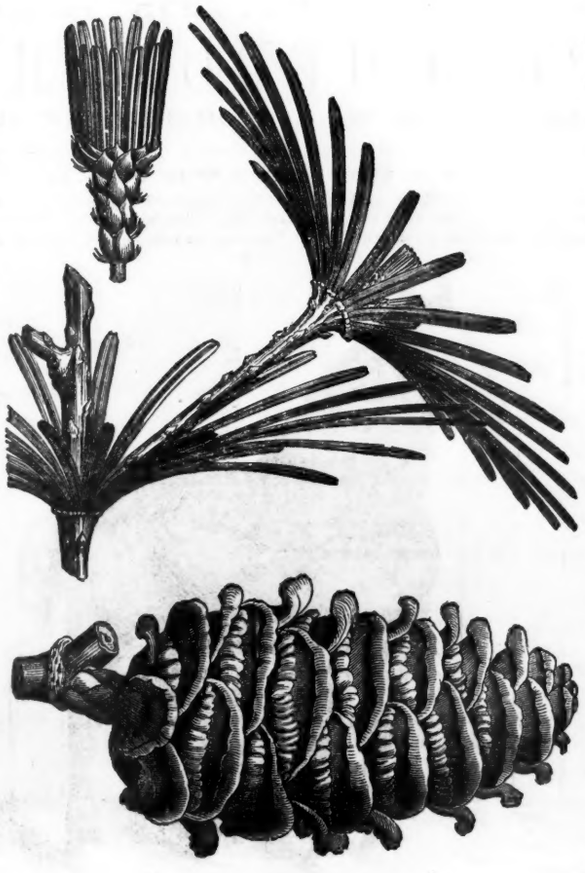

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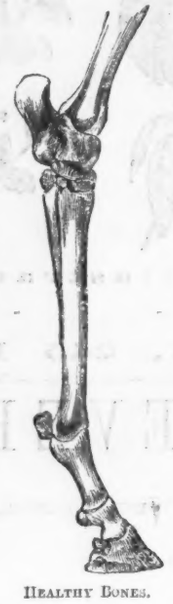

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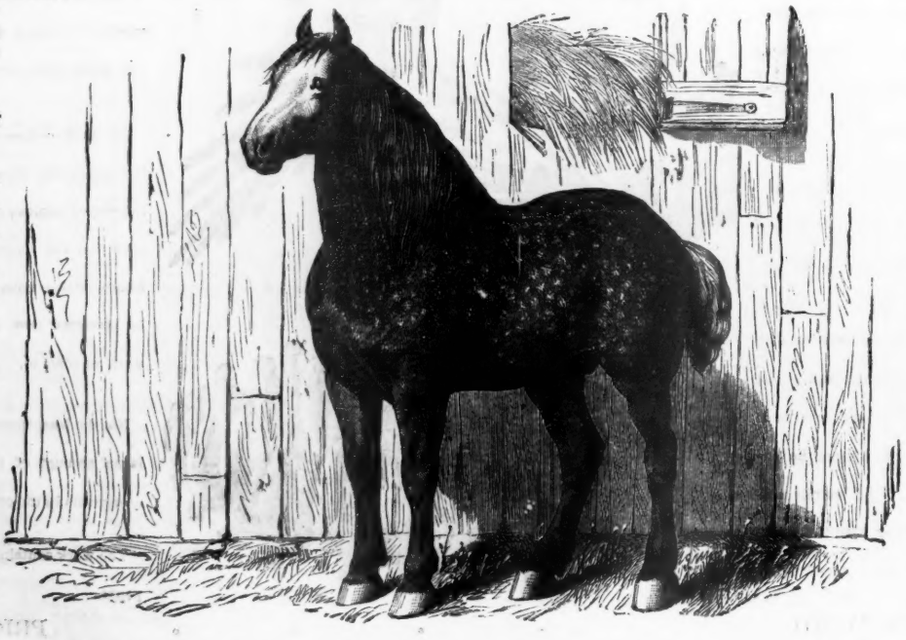

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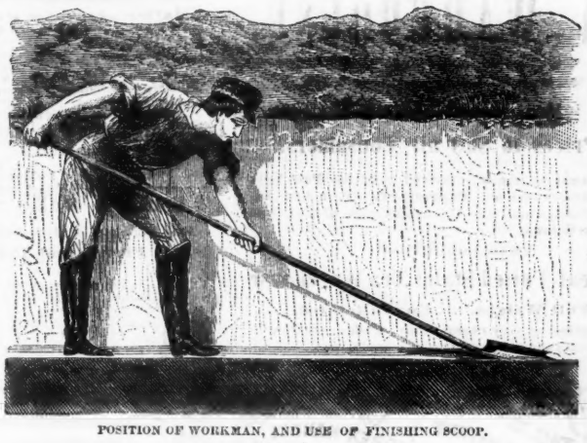

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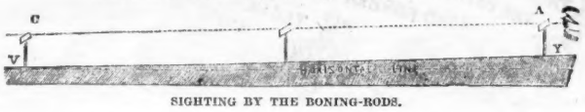

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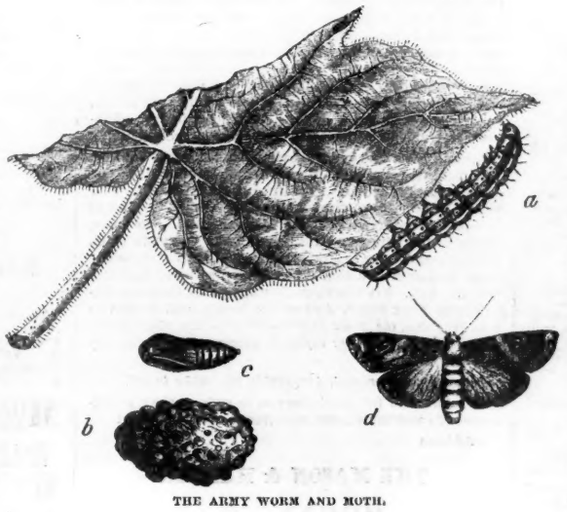

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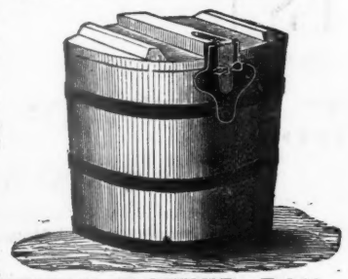

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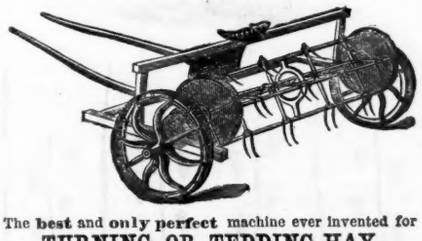

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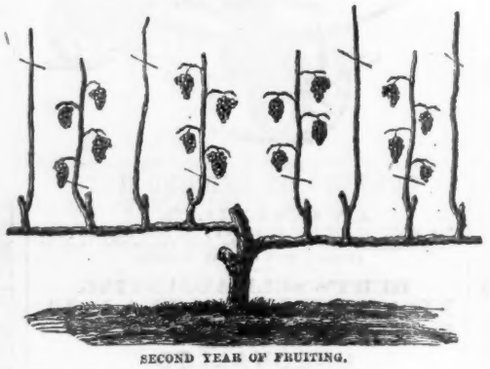

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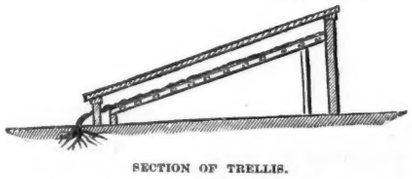

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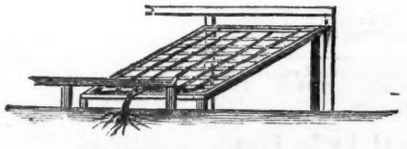

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